

An Editor on Wheels

Stories of Interesting PLACES in the Refrigeration Industry

By GEORGE F. TAUBENECK

St. Louis

Beer's return makes St. Louis a happy city. For beer is perhaps the life-blood of this old metropolis. Without beer it moved and had its being in a senile, arteriosclerotic manner (the demise of even a major industry couldn't disrupt so old a local American civilization as that of St. Louis). With beer it has quickened its tempo, begun to live heartily once again.

Even though it may have been "beer that made Milwaukee famous," the beer realm was really ruled by St. Louis in the years B.P. (Before Prohibition).

It was Adolphus Busch and his Budweiser which kept St. Louis a mighty city when it had apparently outlived its usefulness. It was Anheuser-Busch which replaced the decay of St. Louis with gold inlays (and outlays!) and bridgework. And again it will be, its citizens firmly believe, which will revive and invigorate this ancient (as American things go) trading post.

Not that St. Louis ever will become a lively, brusque place. It might, but we doubt it. St. Louis is too definitely southern, in climate, antecedents, and population, ever to become Chicago-like. But in its own peaceful, good-humored way it is metropolitan without being feverish, intoxicating but not delirious.

Perhaps beer is an excellent symbol for St. Louis. It reflects the type of lives the people live there; just as gin might be a symbol for New York, whiskey for Denver, old wines for New Orleans, and raw alcohol for Chicago. Mellow, charming, easy, tolerant, liberal, the people there enjoy themselves unstintingly and comfortably.

Undoubtedly it is the people of St. Louis who make the city likeable. There's little about its framework and structure to delight the eye or sensibilities.

Smoky and dirty as cities of long standing are apt to be, it is a dingy agglomeration of tenement dwellings, warehouses, factories, and hideous waterfront in many places. Even the proud assemblage of stately classical buildings out Lindell Blvd. possess little beauty.

But the externals don't seem to concern St. Louisans. In fact, almost nothing seems to get them particularly worked up or excited. Fads don't grip the town in such frenzies as they do farther North. Civic improvement and personal betterment clubs aren't taken so seriously there as elsewhere in the Middle West.

True, there is a first-rate Art Museum, a genuine treasurehouse. And the zoo, with its internationally famous cageless bear pits, is practically without peer. St. Louis has a good symphony orchestra. Forest Park, one of a group of 65 such recreational centers, is not only the site of the zoo, the museum, the Municipal Open-Air Theater, and other praiseworthy civic outlets for the amusement urge, but is one of the largest and most admirable parks in the entire country.

Shaw's Garden, too, is a remarkable asset. Outshone only by England's Kew Gardens (some would dispute its second-fiddling in even that highest of classifications), it contains the largest collection of flora in the western hemisphere. Its orchid and chrysanthemum shows are justly celebrated, as are its groups of foreign plantings and its compendious botanical library. A most amazing sight, Shaw's Garden is undoubtedly the one feature of the city most worth visiting.

But these things, as you can see, are indigenous to the city. They are not of the Modern Era in any sense of the word; but rather belong to that period of cultural pursuits and pleasures which was America's heritage from the Old World—a heritage that is rapidly being dissipated in the hectic Twentieth Century.

St. Louis, as we have indicated repeatedly, is an old city. Which explains, or contributes to the understanding of, most of its characteristics and phenomena. It was founded in 1764 by fur-trader Pierre Laclede Liguest, and has been a city of major importance in American history ever since.

Water traffic, borne down the mighty Mississippi, helped St. Louis become the biggest city of the West, which it remained for a long time. It is today the capital of the Mississippi Valley, and the largest city between the Great Lakes and the Pacific Coast. Once the chief river traffic center of the world, it is now the second largest railway center in America.

Buckskinned trappers, covered-wagon pioneers, and Daniel-Boone hunters were its first visitors. They sold their "catches" through St. Louis agents. Then those same agents became the distributors of every conceivable type of goods, from East to West as well as vice versa. The city became a merchandiser.

Today it is still a trading post, but it is also a manufacturer. From the adjacent fields of Illinois and Kentucky, and from the Keokuk dam, it is abundantly supplied with power.

Producing a versatile aggregation of goods (some 287 types of manufacturing listed by the United States census are credited to St. Louis), its population of a million and a quarter people is now largely concerned with making things.

Originally French and Indian and possibly Spanish, the city is now pretty much German in population and mood. Which would help account for the transition from trading to manufacturing.

Citizens of St. Louis (by the way, they pronounce it with an "s," not St. Louie!) are as sensitive about their climate as Californians are about their earthquakes.

It is hot, undeniably hot and humid; but don't rib them about it while you're down there. They'll convince you, with figures, that you're wrong. Even so, you won't need your woolen underwear. Lots of sunshine; good place to acquire tan or freckles rapidly. Shirtsleeves are distinctly correct in St. Louis offices and places of business.

Because Col. Lindbergh's solo flight to Paris was backed by St. Louisans, and his monoplane named "The Spirit of St. Louis," the city by the Father of Waters has achieved considerable attention as a focal point for the development of aviation.

The Curtis-Steinberg airport at Cahokia (three miles south of East St. Louis, Ill.) is a first-class training ground for pilots, in addition to being a big-time commercial airport. And the Lambert St. Louis municipal airport, with its 546 acres, is one of the best in the country.

Air races, air mail, and amateur aviation activities all contribute toward making St. Louis an air-minded city. That should be a logical development of a location which has long been regal in its control of land and water transportation facilities.

St. Louis is one of the few cities in the United States which has both an American and a National League baseball team. Rabid fans, too. Baseball is easily the leading sport in interest for the populace.

Of amusements and recreation other than the attractions mentioned previously there is a dearth. It would be worth your time, however, to run out seven miles to Cahokia, "the Monk's Mound," which is an earthen pyramid larger (and probably much older) than the biggest of the Pyramids of Egypt.

Left by the prehistoric race of Mound Builders, who inhabited the Mississippi Valley and who, archeologists believe, were a highly intelligent people, this artificial mound covers 15 acres of ground. It is a terraced parallelogram rising to a height of 104 feet. Some students think it was once a city of 100,000 inhabitants.

Other mounds left by this lost race were found in various parts of St. Louis, and gave rise to the city's sobriquet of "the Mound City."

Outside of Budweiser beer, the chief St. Louis institution which is widely known and which affects large groups of people beyond the city is the *St. Louis Post-Dispatch*, which is easily one of the most important, the most influential, the most progressive, and the best edited newspapers in the world. Journalists are inclined to rank it with the *Kansas City Star* and the *New York Times* as the foremost newspapers of our time.

Its crusades for the public weal, its fearlessness in attacking corruption, its excellent writing, and its high standards of editorial content make it well worth your reading during your visit to St. Louis. The *Star* and the *Globe-Democrat* are also newspapers of high calibre. From the standpoint of their daily reading matter, St. Louisans are to be envied.

Moderate of pace, ancient in vintage, rich in traditions, powerful in commerce and industry, St. Louis is still the queen of the Mississippi Valley. And it is today, as it was yesterday, one of America's most significant cities.

Norge Co. of Missouri Holds Exhibit

ST. LOUIS—Norge Co. of Missouri, distributor for Norge products, in cooperation with their local dealers, J. A. Stewart of Columbia, Mo., recently put on a Norge showing at the Tiger hotel in Columbia.

In one day 700 people attended this show, although Columbia is only a town of 14,967 people. Six sales of the larger models were made on that day and 25 prospects were registered.

VIRGINIA DEALER SELLS 85 UNITS IN YEAR

STAUNTON, Va.—Sale of 85 electric refrigerators during the last 12 months' period, as compared with 11 sales closed by his nearest competitor, is the record achieved by Southern Electric Co. here, Spartan dealer.

Staunton is a town of 1,000 population.



DISPLAY CASES BY *Seeger* SAINT PAUL

The Economy Market House, 3305 W. North Avenue, Chicago, comprising a Grocery, Meat Market and a Bakery, independently owned and associated under one roof realizing that the market of today calls for an elaborate store, occupying large quarters properly arranged, and with foods appetizingly displayed, organized this store on a cooperative basis where everything for the table can be supplied.

In the butcher department there are three 10 foot Seeger Display Cases, equipped with the latest type defusion coils that operate without forming frost on the coils, consequently reducing dehydration to the very minimum. In the Grocery department



they have two full vision delicatessen cases, each 10 feet long for displaying their food.

The Economy Market House reports that the Seeger Display Cases have played an important part in their merchandising program.



SEEGER REFRIGERATOR COMPANY SAINT PAUL, MINNESOTA

232 Fourth Avenue
Fourth Ave. at 19th St.
NEW YORK, N.Y.

655-57 So. LaBrea Ave.
LOS ANGELES, CAL

666 North Wabash
CHICAGO, ILL.

644 Beacon Street
Kenmore Square
BOSTON, MASS.

REFRIGERATION NEWS

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matter Aug. 1, 1927THREE DOLLARS PER YEAR
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KELVINATOR PRODUCES 43,357 UNITS IN MAY

DEMING, ATWOOD AND SMITH HEAD COPELAND FIRM

New Directors Choose Officers, Operating Committee

MT. CLEMENS, Mich., June 6.—Paul Deming, a newcomer in the field of electric refrigeration, was elected chairman of the board of directors and president of Copeland Products, Inc., at a meeting of the new board of directors here yesterday.

E. W. Atwood, another newcomer, was elected vice president, and Carleton S. Smith was reelected secretary and treasurer of the corporation. Milton E. Stover was elected assistant secretary and assistant treasurer.

Stockholders of the corporation met May 25 and elected the following board of directors, which selected officers of the company at yesterday's meeting: E. W. Atwood, E. H. Brown, Paul Deming, F. T. Murphy, Ralph Romer, Carleton S. Smith, and Merlin Wiley.

The board of directors appointed the following operating committee: Carleton S. Smith, chairman (secretary-treasurer); Edward Barger (in charge of manufacturing); C. W. Hadden (sales manager); and O. Lomsky (purchasing agent).

BUCKEYE ADDS TWO NEW REFRIGERATORS

MANSFIELD, Ohio—Two new bottom-mounted Buckeye electric refrigerators have just been announced by Domestic Industries, Inc., completing its 1933 line. The new models provide 5.5 and 6.8 cu. ft. of storage capacity. Retail prices suggested by the factory are \$99.50 and \$116.50, according to W. C. A. Bickham, general sales manager.

The 5.5-cu. ft. model has 8.4 sq. ft. of shelf area, three ice cube trays, 2½ in. of insulation in the top, sides, and doors, and 3 in. of insulation in the bottom. The larger model has 10.6 sq. ft. of shelf area, three ice cube trays.

(Concluded on Page 2, Column 5)

Scruggs Will Manage Tempire District

DETROIT—W. E. Scruggs has been appointed southeastern district manager for Detroit's Liquid Cooler Corp., and will have headquarters in Jacksonville, Fla., according to D. H. Dillson, sales manager of the company.

Mr. Scruggs will cover Mississippi, North Carolina, South Carolina, Florida, Alabama, and a part of Louisiana.

Bill Drafted to Eliminate Deceptive Advertising

WASHINGTON, D. C.—A bill which would give the Federal government authority to punish any advertiser making untrue, deceptive, or misleading statements has been introduced into the Senate by Senator Arthur Capper of Kansas.

The bill has been referred to the Senate Committee on Interstate Commerce, which will probably conduct hearings upon it during the summer recess.

The legislation in substance is patterned after the *Printers' Ink* model statute which is now in effect in 24 states. Senator Capper's bill includes radio among the kinds of advertising thus to be governed.

While the bill does not specify the government agency which would administer the law, it is thought that the Federal Trade Commission would be the logical agency to handle it.

The text of the proposed law is as follows:

"A bill to prohibit untrue, deceptive, or misleading advertising through the

Seeger Introduces Draft & Bottle Beer Coolers

ST. PAUL—Seeger Refrigerator Co. of this city has introduced a line of all-steel novelty boxes, bottle coolers, draft beer dispensers, midget dispensers, and barrel storage coolers for use by the beer-dispensing trade.

Seeger's beer-dispensing equipment for operation with mechanical refrigeration can be had complete with dry-expansion refrigeration coils, and also with draft and tapping equipment.

The all-steel construction and 2-in. insulation throughout are features which Seeger is stressing in introducing its beer-dispensing equipment. The novelty boxes are available in one or two half-barrel sizes. The novelty cabinets are fitted with ¾-in. copper direct-expansion coils, which cool the barrel compartments and the sweet water bath compartment.

Novelty boxes may be had in a choice of bakelite bar-top spar varnish on walnut mahogany grain, or baken-on olive green enamel. Faucet front and drip pan is of polished copper. Lining is of galvanized steel.

The Seeger "deep chest" draft beer dispenser is a two-tap model, designed for the remote installation of the kegs. Both drain and beer pipe connections extend through the bottom of the cooling tank and are accessible through a door in the front of the cabinet.

(Concluded on Page 2, Column 1)

WESTINGHOUSE GETS 850 ORDERS DAILY

Western Union

June 6, 1933.

Editor:

Westinghouse booked more refrigerator orders in May than any other month in our history Stop Orders coming in at rate of 850 per day Stop Close of business June 5 back orders total 8,740 Stop Interesting to know no large orders but every district represented Stop Buying is based on actual sales Stop Expect high rate of activity to continue longer than previous years Stop Distributors' stocks are very low Stop Westinghouse Mansfield plant now employing more workers than at any time since opening in 1918 due to refrigeration Stop Employing 400 more people than war time peak.

R. C. COSGROVE,
Manager, refrigeration division,
Westinghouse Electric & Mfg. Co.

Grinnell Changes Name Of Company

GRINNELL, Iowa—Grinnell Electrical Mfg. Co. is the name under which Grinnell Washing Machine Corp. of this city will operate.

The change in name has been made because the Grinnell company now manufactures electric refrigerators, bottle beer coolers, and oil burners in addition to electric washers.

use of the mails or in interstate or foreign commerce.

"That any person, firm, corporation, or association who, with intent to sell or in any wise dispose of merchandise, service, or any other thing, offered by such person, firm, corporation, or association, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof, or to induce the public in any manner to enter into any obligation relating thereto or to acquire title thereto or an interest therein, makes, publishes, disseminates, circulates, or places before the public, or causes, directly or indirectly, to be made, published, disseminated, circulated, or placed before the public, through the use of the mails or in interstate or foreign commerce, in a newspaper or other publication, or in the form of a book, notice, handbill, poster, bill, circular, pamphlet, or letter, or through broadcasting by radio, or in any other way, an advertisement of any sort re-

(Concluded on Page 2, Column 4)

GRUNOW & U. S. RADIO MERGER IS CONSIDERED

Stockholders' Approval Awaited; Grunow to Head Group

CHICAGO—Negotiations are now under way for the merger of Grunow Corp. here with the United States Radio & Television Corp. of Marion, Ind., according to a statement issued June 1 by William C. Grunow, president of the former company.

Mr. Grunow said that a contract for the merger had been signed and was awaiting the approval of stockholders at that time. He stated that the proposed combine, if effected, will be the first step toward organization of a company which will manufacture a

Grunow Is 10,362 Units Behind in Delivery

Postal Telegraph

June 5, 1933.

Editor:

As of June 1 Grunow Corp. is 10,362 units behind in delivery of refrigerators Stop Plants working at almost full capacity, dollar volume of business considerably ahead of what unit number indicates due to fact no exceptionally low-priced merchandise being manufactured and low-priced line not as yet announced Stop

DUANE WANAMAKER,
Grunow Corp.

complete line of household electric appliances.

Although no definite announcement was made last week regarding products to be manufactured by the two companies if they merge, it was reported in Chicago that U. S. Radio & Television Corp. will probably discontinue manufacture of its U. S. Hermetic refrigerator line. Mr. Grunow will be president of the merged companies.

9,000 FRIGIDAIRE FACTORY WORKERS GET 5% RAISE

DAYTON—Effective last Friday, wages of 9,000 hourly workers in the Moraine and Taylor St. plants of Frigidaire Corp. have been raised 5 per cent.

The increase was made as part of a new General Motors plan announced by President Alfred P. Sloan, Jr., to raise wages of approximately 100,000 automobile plant employees throughout the country, and optionally of workers in other units of the corporation.

Not included in the 5 per cent raise are executives and salaried employees.

The announcement of an increase in pay follows by only five days a statement by Frigidaire officials that production of household models in June will be greater than the total output in any previous 30-day period in the 17 years of the company's history.

Klopp Resigns as Field Manager of Majestic

CHICAGO—Resignation of Charles R. Klopp, field sales manager, has been submitted to Grigsby-Grunow Co.

George T. Bryant has been selected to fill the position left vacant by Mr. Klopp.

Mr. Klopp came to the Majestic factory organization recently, backed by selling experience acquired through connection with Peirce-Phelps, Inc., Philadelphia Majestic distributor, and Judson C. Burns, distributor in that city for General Electric products.

175 Employees Recalled By Mueller Brass Co.

PONTIAC, Mich.—Recalling 175 of its former employees as a result of an increased production schedule, Mueller Brass Co. here now numbers approximately 600 men on its force.

Harlan Appointed Commercial Mgr. Of Kelvinator

DETROIT—J. A. Harlan, who for the past year has been directing sales activities in Kelvinator Corp.'s oil burner and contract divisions, has been appointed commercial sales manager of the company, according to H. W. Burritt, vice president in charge of sales. Before he joined Kelvinator, Mr. Harlan was vice president in charge of sales at Frigidaire Corp.

J. S. Sayre, sales manager will now devote his entire time to development of sales in the domestic field. The new commercial sales manager will supervise merchandising activities in Kelvinator's commercial refrigerator, ice cream cabinet, water cooler, milk cooler, air-conditioning, and national users divisions, and will continue in charge of the manufacturer's oil burner and contract business.

INDUSTRY RECOVERY BILL UP THIS WEEK

WASHINGTON, D. C., June 5.—The Industrial Recovery bill was still in the hands of the Senate Finance committee today, but it is expected that it will be brought before the Senate for debate early this week with the possibility that it may come to a vote by Saturday.

The Senate committee last week voted to eliminate the licensing provision of the bill, but reversed its decision today by voting to reinsert the provision in the bill.

The licensing provision would give the President the power, when he deemed it essential, to license business enterprises in order to make effective a code of fair competition. Any person who operated a business (in an industry in which the licensing provision was in effect) without a license or in violation of its terms, could be found guilty of a misdemeanor and punished by fine or imprisonment.

The Senate committee also voted to give authority to the President to place an embargo on imports. This proposed amendment is in line with the National Association of Manufacturers' request that the President be given such authority "to offset the increase in wages, shortened hours of labor, and raise in level of commodity prices expected under the operation of the bill."

COPELAND BOOSTS WAGES OF EMPLOYEES 5 TO 10%

MT. CLEMENS, Mich.—All former employees of Copeland Products, Inc., have been recalled, and the plant is working at its highest rate since 1931, its best year, according to reports. Wage increases of from 5 to 10 per cent have been announced.

DETROIT—May shipments of Leonard electric refrigerators showed an increase of 70 per cent over those of May, 1932, it was announced by R. L. Petrie, general sales manager of the Leonard Refrigerator Co. of this city and Grand Rapids, Mich.

Orders received during May were 76.7 per cent ahead of those of the same month in 1932, while unfilled orders on hand as of May 31 were 139 per cent in excess of those on record on the same date in 1932.

157 Dealers Give Opinions on Current Sales Problems

CHICAGO—Dry-Zero Corp. has just released a report on a survey made among 157 electric refrigerator dealers to secure their opinions regarding current problems in refrigeration merchandising.

Eleven per cent of the dealers represented in the survey operate in metropolitan areas, and 45 per cent are located in cities of 100,000 or more people. Replies to Dry-Zero's questionnaire came from 31 states, according to Harvey B. Lindsay, president.

Of the 157 retailers, 84 reported that they sold fewer than 100 refrigerators last year, 17 that they sold between 100 and 200, and 49 that they delivered more than 200. Forty-one dealers said that they do not expect to exceed their last year's unit sales volume, and 114 expect that they do anticipate an increase in business this year.

According to Dry-Zero's report of the survey, 29.9 per cent of the dealers said that quality is the point to which prospective buyers respond most readily this year, while 28.1 per cent named low price as the most appealing feature of household refrigeration in 1933.

A third point, economy of operation,

8-MONTH SALES ARE 6,050 UNITS UNDER '32 TOTAL

Month's Totals Include Kelvinator, Leonard, And Commercial

DETROIT—Establishing the second successive all-time record for monthly production, Kelvinator Corp. shipped a total of 43,357 units in May, according to H. W. Burritt, vice president in charge of sales. This figure represents an increase of 102 per cent over May of 1932, and a gain of 44 per cent over April's record-breaking total of 30,116 units. The figures include both Leonard and Kelvinator household refrigerators, as well as commercial systems.

Shipments for the first eight months of the fiscal year exceed total shipments for the full years 1929 or 1930, and come within 6,050 units of equaling the full year's record of 1932—which until now had been the company's banner year, measured in terms of actual unit shipments.

May shipments of 43,357 is 256 per cent of the May average for the previous five years.

Unfilled orders now on hand indicate that June should exceed June of last year by a substantial amount, and should raise the nine-month's total for the fiscal year to well above the full year's shipments in 1932, Kelvinator officials state.

Last month's record exceeded the forecast of probable sales so much that the production schedule was revised upward from the original schedule of 25,000 units three times to 30,000, 35,000, and finally 40,000 units.

Mr. Burritt pointed to the unusual lengthening of the electric refrigerator peak sales season as a definite indication that a nation-wide business recovery is under way. The fact that the usual seasonal recession is still out of sight this year can be interpreted only as a sign of a new buying impulse.

Leonard Shipments in May Show Increase

DETROIT—May shipments of Leonard electric refrigerators showed an increase of 70 per cent over those of May, 1932, it was announced by R. L. Petrie, general sales manager of the Leonard Refrigerator Co. of this city and Grand Rapids, Mich.

Orders received during May were 76.7 per cent ahead of those of the same month in 1932, while unfilled orders on hand as of May 31 were 139 per cent in excess of those on record on the same date in 1932.

Fifty-one dealers reported that in their opinion, the public wants cheaper refrigerators, while 101 took the opposite stand. "The public will pay more for better quality and performance," said 133 retailers, while 17 said that they have not found this to be true.

"Do you believe there is any necessity for lengthening time payments?" was the next question. "Yes," said nine dealers. "No," said 148 of them. Thirty-four men indicated their belief that the public is "greatly influenced" by the length of a guaranty, while 121 said that they have not found this to be true.

(Concluded on Page 2, Column 5)

SEEGER INTRODUCES BEER-COOLING UNITS

(Concluded from Page 1, Column 2)

This beer dispenser is fitted with dry-expansion coils for operation with mechanical refrigeration.

Cabinet may be had in any of the finishes enumerated for the novelty boxes. In the olive green finish, the sink strainer, splash back, and bar-top drainer are of polished copper, while for the other two finishes the sink, top, and splash back are of stainless steel.

The midget dispenser is designed for use in small stores, or for parties and picnics. It measures 12x12x12½ in., and has one 24-ft. block tin beer coil. Case and lid are all steel, with galvanized steel lining, exterior finished in olive green enamel.

Barrel storage coolers by Seeger are made in two sizes, to store two half-barrels or two full barrels. There is a 12-in. space above the barrels for coils, and sleeved openings in each end for the refrigeration tubing. There are also two sleeved openings in the top for beer pipes.

For bottled beer, Seeger has introduced a bottle cooler and a bottle chest. The bottle cooler is built on an all-steel frame, the lower part of which may be screened to provide a housing for a compressor, making the cooler self-contained, or which can be used as a rack for extra cases where the compressor is remotely installed. The bottle cooler is fitted with casters, making it portable.

The bottle cooler comes in a 3-ft. length only, interior dimensions being length, 33 in.; width, 20 in.; height, 12 in. Lids are of the top-lift type.

Bottle chests are deeper than the bottle cooler, and are fitted with sliding all-steel doors. The chests are 23½ in. wide, 31½ in. deep, and are available in 3-, 4-, and 5-ft. lengths.

Masonic Service Held at Grave Of Mutchner

DAYTON—Preceding a Masonic burial at New Hollansburg, Ohio, funeral services for Chalmer T. Mutchner, former head of the Frigidaire publicity department, were held at the Bradford & Routsong funeral parlors here Friday, June 2. Mr. Mutchner died May 28 in Tucson, Ariz.

Members of the family, Frigidaire officials, and other friends attended the simple Episcopal service, which was read by Rev. Phil Porter, rector of Christ Episcopal Church.

Pallbearers included Earl D. Doty, advertising manager of Frigidaire Corp.; A. D. Farrell, also from the advertising department; James W. Irwin, publicity department; Earl Smiley, Richard Cull, Dwight Young, and E. M. Rossiter.

Kelvinator Distributor Exhibits Products

GREEN BAY, Wis.—Sixty different products, all wholesaled by Morley-Murphy Co., Kelvinator distributor with offices in this city and Milwaukee, were on exhibit at the company's recent two-day "Get Together" here.

In charge of the Kelvinator booth were W. E. Bodart and A. J. R. Seydel of Morley-Murphy Co., with District Manager Hib Dahl.

The meeting was held in the Columbus club auditorium, with 750 representatives from 250 dealerships in attendance. As the public was not admitted until the second day, dealers had opportunity to examine the displays at length on the first day.

A banquet and theater party provided entertainment for the visitors.

REED SAYS INDUSTRY RECOVERY MEASURE IS UNCONSTITUTIONAL

MORRISVILLE, Pa.—Senator David Reed of Pennsylvania, in a recent speech here, predicted that President Roosevelt's Industrial Recovery bill would be "stricken down and bowed out by the courts as unconstitutional" unless all of our "established constitutional principles" failed.

"The Industrial Recovery bill will put powers in the President's hands that I think are beyond any man's capacity," declared the Senator. "I concede Mr. Roosevelt's sincerity and honest desire to rehabilitate industry, but I do not think any one or any group of Washington bureaucrats can manage the commerce and industry of this nation."

Senator Reed declared himself as being definitely opposed to giving the President the right to write codes for trade associations whose practices did not appeal to him. He also expressed anew his belief in a sales tax.

"I have urged a sales tax for years," he said. "A sales tax is the fairest and safest way to raise revenue."

On the same day that Senator Reed was speaking in Morrisville, Representative Rich of Woolrich, Pa., speaking in Williamsport, declared that a government regulation board for industry was impossible because of politicians. However, he went on record as approving the proposal that industries temporarily regulate themselves.

BIEHL TO HANDLE GRUNOWS

SCRANTON, Pa.—Biehl's, Inc., Philco wholesaler here, has been appointed distributor in this area for the Grunow refrigeration line.

Capper Introduces Advertising Bill

(Concluded from Page 1, Column 2)

garding merchandise, service, or any other thing, so offered to the public, which advertisement contains any assertion, representation or statement of fact which is untrue, deceptive, or misleading, shall be guilty of a misdemeanor, and shall, upon conviction thereof, be punished by a fine of not more than \$1,000, or by imprisonment for not longer than five years, or by both such fine and imprisonment."

Senator Capper, in introducing the bill, pointed out that there is at present an "apparent inclination to subject advertising to governmental censorship or bureaucratic control in order that minority abuses may be eliminated." He was apparently referring to the first drafts of the proposed Food and Drugs Act which would have advertising of products in these industries submitted to government censorship.

"This would be deadly," declared the Kansas legislator. "For example, how would a manufacturer be able successfully to advertise in a newspaper if he had to submit his copy to Washington for approval before running it?"

"Such a policy, carried out to its logical conclusion, would cut down advertising by half and the consequences would be disastrous, not only to publications, but to the country's business as a whole."

"Vastly better, in my humble opinion, is sharply defined law such as the one I proposed—a law that would discipline the offender."

ASSOCIATED GAS SELLS 1,506 ELECTRIC UNITS

NEW YORK CITY—The 1,500 mark in refrigeration sales was left behind last week by employees of the Associated Gas & Electric System participating in the organization's "1933 Refrigeration Jubilee," system-wide man-hunt contest lasting from May 15 to June 24. One thousand five hundred six electric and 114 gas refrigerators were sold in the first 15 days.

Southern New York branch reported the greatest number of electric refrigeration sales, a total of 312; while the New England office carried off honors in sales of gas machines, with 44 to its credit.

Other sales were allocated as follows: New England, 273 electric; Northwestern New York, 235 electric, 22 gas; East Penn-New Jersey, 172 electric, 6 gas; Staten Island, 95 electric; Central New York, 94 electric, 4 gas; Eastern New York, 90 electric; Western Pennsylvania, 83 electric, 1 gas; K-T-I-M, 50 electric; Patchogue, 31 electric; Electric & Gas Utilities, 24 electric, 32 gas; Louisiana, 20 electric; South Carolina, 14 electric, 4 gas; Florida, 13 electric; Southern New York, 1 gas.

321 G. E.'s Replace Old Apartment Units

NEW YORK CITY—Three hundred and twenty-one G. E. refrigerators have been installed in New York apartment houses recently to replace obsolete or worn-out refrigerators.

The San Carlos hotel at 150 E. 50th St. installed 129 HE-3 models. The Cambridge Apartments at 36 Bowne St., Flushing, installed 199 S-44 models. The Grove Apartments at 147 90th Ave., Jamaica, Long Island, contracted for 59 E-4 models.

Eleven G. E. models replaced a like number of outdated refrigerators in the apartment at 713 Bay Parkway, Brooklyn, and three machines were installed for a similar purpose at 701 St. Marks Ave., Brooklyn.

Users' Directory Used By Lindburg Co.

ST. LOUIS—Newest sales tool for retail salesmen of the Arthur K. Lindburg Co., St. Louis Westinghouse distributor, is a 48-page booklet containing names and addresses of Westinghouse refrigerator users in this vicinity, and testimonial letters from some of them.

Titled "More Than a Thousand and One Reasons Why," the book lists three pages of Westinghouse installations for government service, two pages of especially prominent St. Louisians using Westinghouse units, and 30-odd pages of other Westinghouse owners in the city, together with a number of testimonial notes from users.

TURNER TO CONTACT DEALERS FOR ST. LOUIS CO.

ST. LOUIS—Witte Hardware Co., distributor of Kelvinator products in this city, has appointed Howard Turner to manage commercial dealer contact for the company.

157 DEALERS TELL CURRENT PROBLEMS OF MERCHANDISING

(Concluded from Page 1, Column 5)

were not of this opinion, the Dry-Zero survey report says.

The query, "What fault in the industry is most harmful to you?" brought a variety of answers. Price-cutting was named by 49 dealers, misrepresentation by 31, cheap merchandise by 24, long guarantees by 15, allowances by 11, long terms by seven, small margins by six, dumping by five, and small down payments by three.

A separate report was made by Dry-Zero on those questionnaires returned by the 49 dealers whose refrigerator sales were above the 200 mark last year. Thirty-nine stated that they expect to do more business this year than last, while nine do not believe they will beat their 1932 record.

The report lists 36 per cent of the dealers as of the opinion that quality is the strongest sales point this year, while 23 per cent are said to have listed low price as the best sale-maker. Economy of operation was given as most important by 15 per cent of the retailers, convenience by 13 per cent, and styling by 13 per cent.

Forty-three dealers said that establishment of performance standards would help maintain quality in the industry; three were not of this opinion. Thirty said that performance standards would prevent further price cutting, and 13 stated that they would not, according to the report.

The public wants cheaper refrigerators, said 14 dealers in their questionnaires, while 35 were of the opposite opinion. Forty-five said that the public "will pay more for better quality and performance," and three said that it will not.

Only one of the 49 dealers believes that time payments should be lengthened, states the Dry-Zero report. Thirty-nine said that the public is considerably influenced by the length of a guaranty; nine opposed this view.

Asked to name the fault in the industry most harmful to retailers, these answers were given (figure after each answer indicates the number of dealers giving that response): Price cutting, 19; misrepresentation, 14; allowances, 7; cheap refrigerators, 7; long guarantees, 4; dumping, 3; small margin, 2; long terms, 1; and small down payments, 1.

BANK HOLIDAY IDEA FOR WESTINGHOUSE DISPLAY

TUSCALOOSA, Ala.—Capitalizing on widespread attention given the recent bank holiday, L. C. Kinney, manager of the Moore-Handley store here, has conceived an unusual window display.

A model of a Westinghouse refrigerator occupies the center of the window. Steps lead up to the open door of the box, inside of which can be seen pillars supporting a pediment which bears the sign "Continuous Savings Bank."

The Moore-Handley store has a special department given over to Westinghouse appliances.

BUCKEYE ADDS TWO NEW MODELS TO LINE

(Concluded from Page 1, Column 1)

(one a deep pan), and 3½ in. of insulation throughout.

Exterior finish of the new models is white lacquer, while interior is porcelain. Both have an eight-point control, a single-cylinder compressor, a 1/6-hp. Leland motor, and a charge of 1½ lbs. of sulphur dioxide refrigerant. Shelves are of the flat ribbon type with rubber shelf supports, hardware is chrome plated. Both sizes are also available with a porcelain exterior finish.

CATES WILL MANAGE SALES IN NASHVILLE

NASHVILLE, Tenn.—J. T. Cates has been named sales manager for Pendergraph-Brown, Inc., Tennessee distributor for G. E. refrigerators, ranges, and dishwashers. Mr. Cates had been associated with the Georgia Power Co.

35 NORMAL SCHOOL STUDENTS VISIT SPARTON PLANT

JACKSON, Mich.—Thirty-five students of industrial management at Ypsilanti's Michigan State Normal college made a tour of inspection through the Sparton refrigerator plant of the Sparks-Withington Co. here.

25 SALES IN ONE WEEK

WELCH, W. Va.—Jones-Cornett Electric Co., Kelvinator distributor in this coal mining district, sold 25 refrigerators from the salesroom floor in a week's time recently.

HERE'S THE DOOR TO GREATER PROFITS



This new and exclusive patented feature is the most sweeping victory in the field of electric refrigerator sales

Here is the most sensational feature ever thought of in ELECTRIC REFRIGERATION...the most sensational design since the first ice box was brought out...a feature so self-evident, so new, so convenient and helpful that even housewife after one glance will say: "That's what I must have!"

MODEL D-35 NET contents — 3½ cubic feet. Shelf area—8 square feet. Overall Dimensions: Height, 50 ½"; Width, 23 ½"; Depth, 24"; Leg Height, 10 ½". No. ice trays, 2; No. ice cubes, 42.



MODEL D-45 NET contents — 4½ cubic feet. Shelf area—10.6 square feet. Overall Dimensions: Height, 56 ½"; Width, 23 ½"; Depth, 24"; Leg Height, 10 ½". No. ice trays, 3; No. ice cubes, 48.



MODEL D-60 NET contents—6 cubic feet. Shelf area—11.5 square feet. Overall Dimensions: Height, 57 ½"; Width, 29 ½"; Depth, 25 ½"; Leg Height, 10 ½"; No. ice trays, 3; No. ice cubes, 63.



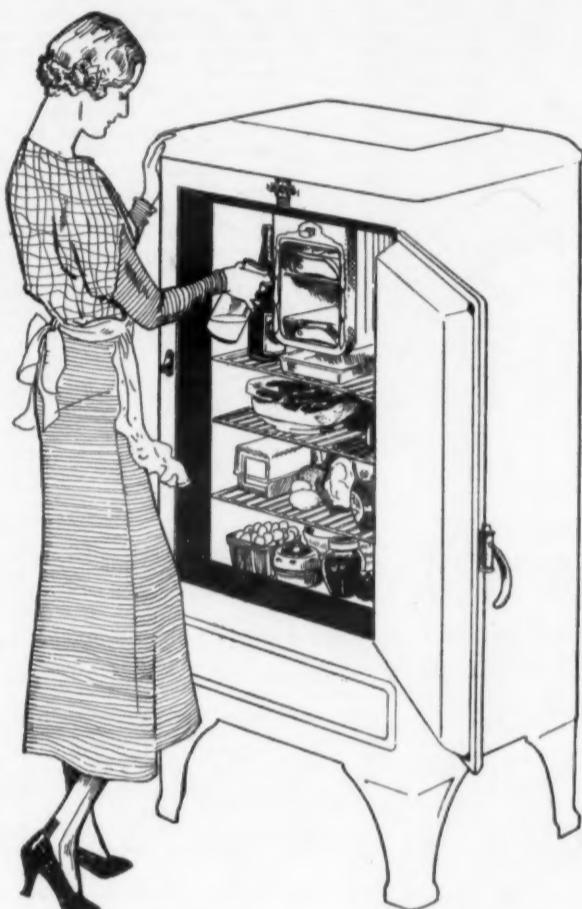
ALL PRICES INCLUDE DELIVERY...INSTALLATION...ONE YEAR FREE SERVICE

Montana, Wyoming, Colorado, New Mexico and west, prices slightly higher.
The Crosley Radio Corporation - Cincinnati
POWEL CROSLEY, Jr., President.

CROSLEY

Electric
REFRIGERATOR
WITH SHELVADOR
U. S. PATENT 1898922

It's a Frigidaire Year



THE NEW STANDARD SERIES FRIGIDAIRE

Engineered from the ground up as a quality refrigerator, meeting Frigidaire standards of performance and workmanship. Nothing like it known before—uses less current than one ordinary lamp bulb—new beauty of design—new Dulux finish—porcelain interior—chromium-finished hardware—new convenience features such as automatic defrosting, automatic ice-tray releasing, cold storage space, room for tall containers, one-fourth more food space . . . sells for only \$96 (plus freight), installation and Federal tax paid.



THE NEW SUPER SERIES FRIGIDAIRE

The six de luxe models in this series represent more progress in styling, engineering, construction and value than has been made in any single year in the industry. The beautiful cabinets are entirely new in design and are Lifetime Porcelain inside and out. Dozens of new and exclusive features such as interior light, automatic defrosting, automatic ice-tray release, movable shelves, and double Hydrator capacity make these Frigidaires sales leaders. And prices are lower than those for which All-Porcelain Frigidaires have ever been sold before.

A flood of orders for the new Frigidaires continues to swamp the largest refrigerator factory in the world. Thousands of workers on a full-time basis, thousands of dealers & salesmen rejoice with us in the most overwhelming public reception ever accorded a new line of refrigerators. Again this is a "Frigidaire Year."

*the new Frigidaires
are in tune with the times*

BY GEORGE F. TAUBENECK ---

Guide to Chicago

The world is pouring into Chicago this summer. Even though A Century of Progress fair is the attraction, the visitor shouldn't neglect Chicago itself—which is one of the most interesting and thoroughly American cities in the nation.

To the many readers of the News who plan to vacation, or attend conventions, for several days in the Windy City this summer, this article is presented as a partial guide to Chicago's most accessible and best worth visiting sections.

Most amazing thing about Chicago is its newness. Landmarks? Preserved ruins, homes-where-once-etc., historic edifices? Chicago has none of these. "The old order changeth, making way for the new." It has been a paradise for wreckers and construction companies. Put 'em up, rip 'em down, build anew.

Build, build, build. And grow. Grow eternally. Change. Above all change. Here indeed is the Fountain of Eternal Youth which Ponce de Leon roamed the Western Hemisphere seeking. Chicago is Youth itself.

Does a river flow inconveniently? Reverse its current! Does the city need new land? Wrest it from the lake! Is a new school of architecture needed? Teach it to the world with a mighty fair, in 1893 and again in 1933!

Forget the racketeers when you come to Chicago. You haven't a ghost of a chance of becoming a ghost (it just ghosts you can't judge a place by its reputation). Look for—and admire—instead the Chicago-I-Will, Chicago-Let's-Go spirit which has made it the most astounding wonder of the age, a metropolis which has sprung up (as metropolis reckoned) overnight.

What a Skyline!

An eyeful, that's what Chicago is. Literally, too; because an outlander rarely fails to get something in his eye while walking its streets. A figurative eyeful because of its immense panorama. It would fill even the eye of a Cyclops.

Chicago's skyline along the "Boul Mich" (Michigan Blvd.) is not so celebrated as that of New York seen from the harbor, but it should be. It is much more impressive, because it is a single array, an imposing line, rather than a helter-skelter jumble. See Chicago's skyline and you've seen the world—of skyscrapers.

It's not alone the majestic sweep of that two-mile front rank of tall buildings which grips the eye and the imagination. It's the miracle of light. You'll see nothing in your American travels—see possibly the illuminated "golden tower" of Detroit's Fisher building—which will dazzle you like the floodlit structure erected by William Wrigley, Jr., from the pennies brought in by his chewing gum.

High, wide, and handsome; white as the driven snow so overworked by poets; unforgettable as the face of Carole Lombard; this building is one of the major spectacles of the man-made world.

Beginning at the Stevens, world's largest hotel, and winding up with the Palmolive building—atop which, appropriately enough, is the world's most powerful searchlight, a magnificently sweeping beam which could fascinate one for hours on end—is a surprisingly long line of cloud-seeking structures which zigzag like the curve of money in circulation. And most of them are lighted gorgeously at night.

Most sightly of these, we think, are the 333 building, the Straus building, the Willoughby tower, Medinah Shrine Temple, Carbon & Carbide building with its sleek brunettete, and the Tribune tower. Latter, on the design of which Raymond Hood attained the front rank of architecture as well as winning a world-wide competition, is noted for its flying buttresses and its cathedralicity. Medinah Temple is one of the most ornate structures in the United States, with every floor and every dining room an adventure.

Michigan Blvd. itself is a broad highway skirting these skyscrapers, with a traffic pace faster than any city street in the nation (everything about Chicago inspires a superlative). On one side the skyscrapers; on the other Lake Michigan. It will never fail to rob you of your breath.

North and south of the skyline section is the Outer Drive, another fast highway bordering the lakefront. It has been built on reclaimed land, and is as well lighted as the Boul Mich itself. Both highways (or rather, broadways) are always fanned by a vigorous breeze. Great thing for mental cobwebs in the morning.

Wacker Drive hugs the inside of the Chicago river, and forms the northern and western boundaries of the famed Loop business district. Across the

river have been flung several jackknife drawbridges so fascinating (or, don't shoot, transporting) that their ends are always fringed with curious gazers when steamers pass through.

Looping the Loop

The Loop itself is so-called because of the elevated railroad, which loops the business district, stopping every two blocks on Wabash, Lake, Wells, and Van Buren streets. Within these confines a helluva lot of business is transacted.

Shopping is done on State St., where you'll find, in the course of a brisk walk, Marshall Field & Co. (covering a square block), Mandel's, The Fair, The Hub, Boston Store, Carson Pirie Scott & Co., and any number of smaller shops and mercantile establishments. Few, if any, of the world's retail centers can equal it in annual dollar volume of sales. Canny Marshall Field himself was responsible for this concentration of competition.

Wabash is busy, too, and Clark, Randolph, Madison, Jackson, Monroe, and Adams streets. Each is a little different in tone and appearance and pace.

Randolph has theaters and restaurants; Madison is loaded with hotels; Clark has its banks.

But all are fast-moving, noisy, and crowded. Rumbling trucks and squealing taxis in the streets; a jostling mob on the sidewalks.

La Salle St. is the Wall St. of Chicago. It is, like its Manhattan counterpart, a dark canyon of gray stone. Banks, investment houses, office buildings merge into one another and become unified, light-forbidding walls. The new beacon-top La Salle Wacker building is at the north end, the Board of Trade directly at the head of the south.

Designed by Chicago's noted team of Holabird and Root, the 45-story granite and limestone Board of Trade is a dominating monument, a monument to the trader. Which, ladies and gentlemen, means a monument to the men who made Chicago what it is today. It has always been the nation's great trading post.

Romantic and exciting, rich with tradition, the Board of Trade is the exchange mart for the produce of the Middle West. Grain is the chief sub-

ject and object of the trading. In its fashion the Board of Trade is another New York Stock Exchange, with symbolized blackboards, scurrying brokers, sizzling telephone and telegraph wires.

Melvin Traylor, the Dawes brothers, and other internationally noted Chicagoans hold forth on La Salle St.

Start west from La Salle in taxi, and by the time the driver has shifted into high you will be in the midst of the wholesale and garment trade district, peopled largely by Jews and out-of-town buyers. Nothing inspiring about this section. Skip through it hurriedly on your way to the Union Station.

Encompassing a big square block, the Union Station features exposed steelwork, supporting columns, and spiderwebs. This modern functionalism of design is indeed mild when compared with A Century of Progress architecture, but it has long given American architects a thrill.

Near it are the 42-story Chicago Civic Opera building (from the top stones of which a grand view of the West Side may be had), put up by Samuel Insull in his hey-day, and the Chicago Daily News building and plaza. These confronting giants are indeed splendid and theatrical.

The Daily News building utilizes air rights, and covers a maze of railroad tracks. Its plaza scene of band concerts and public-address-system broadcasts, contains the Victor F. Lawson (News publisher) Memorial Fountain.

From the plaza one can see, carved on the side of the News building, relief work celebrating journalistic history. Within the building the *Chicago Daily News* is put together by the force of gravity: copy is written in upper stories and dropped through successive production departments to the presses and waiting trucks.

Another air-right structure is the Merchandise Mart, world's largest building, which you will find by moving northward on Wacker Drive and crossing the river at La Salle St. It contains more than one hundred acres of floor space, and yet is neat. Need more be said?

New Holland

At the forepart of this story we mentioned the fact that Chicago tears down and rebuilds in swift cycles. One result of this constructive destruction has been the provision of rubble and rubbish, as well as earth from excavations for new buildings, to use as filler for the waterfront development which is rightfully Chicago's chief pride.

This honest mixture of debris has been supplemented by dump-heaps trash, covered with sand dredged up from the lake, and topped with rich black soil flched from downtown farming areas. Underground railways (not the Civil War variety) have been patiently hauling this filler and depositing it inside stone and tree-trunk breakwaters for years.

The powerful Illinois Central railroad runs its tracks through this reclaimed waterfront, a favor granted in return for its aid in building breakwaters and helping speed the development. Montgomery Ward was also an important factor in extending Chicago out into Lake Michigan.

Of course the entire layout of A Century of Progress is located on this waterfront development. Nearby are the mammoth stadium of Soldier Field, the Shedd Aquarium, Adler Planetarium, Field Museum, Buckingham Fountain, and, farther north, the Art Institute.

Our favorite of these temples of public instruction is the Adler Planetarium where, within the space of an hour, the heavens will unfold in all their mystic glory for you, while a learned lecturer tells you just what is happening and why.

Inside during the lecture hour an optical monster of the Buck Rogers 1933 A. D. family throws a reproduction of the heavens on the dome above. As you watch, the stars "reel in a rollicking crew" and a whole season of skies shunts across the heavens at the direction of the lecturer. Arrows of light point to the star, planet, or constellation to which the lecturer refers. It's all most absorbing.

The monster which does this trick is a product of the handiwork of Carl Zeiss, who manufactures fine astronomical and photographic equipment at Jena, Germany. Max Adler, who made his money out of the mail-order business (Sears-Roebuck) spent more than a million dollars fitting up this planetarium.

John Shedd, a Marshall Field executive, spent three times that amount to erect the Shedd Aquarium which—again the super superlative—is the biggest and finest aquarium in the world.

Just as the best zoos present the illusion of uncaged animals in native habitat, so the Shedd Aquarium has contrived to offer the spectacle of undersea life in the original. And like the fabled farmer who was confronted for the first time with a giraffe, you'll probably find it hard to believe what you see.

Field Museum bumps the ante even higher. Marshall Field left a bequest of \$4,000,000 for its erection (which fell short of the total cost by almost half), and a similar amount for its endowment. Once housed in the Columbian Exposition (1893 World's Fair) Art Palace in Jackson Palace, the treasures of Field Museum have increased and multiplied in their new home in Grant Park, which is the official name of the waterfront development.

A guide will tell you, and only a guide would know from experience, that one would walk at least six miles in traversing the labyrinthine corridors of the new Field Museum's interior.

Stanley Field Hall, the central nave, is a cathedral in itself. Stretching a block east and another block west from the center are the gargantuan wings which house the exhibits of prehistoric and contemporary animals of every clime, the exhibits of races in their natural habitats and in lifelike poses, and the exhibits of various types of handicraft (and so on ad infinitum but never ad nauseam).

To bring these exhibits of anthropology, zoology, botany, and geology hither, scientific expeditions are sent out to little known parts of the globe. It is by no means a static museum. Moreover, Chicago schools make the most of it and its educational possibilities.

Further up Grant Park may be found the sculptured Indian horsemen, St. Gaudens' mighty statue of Lincoln seated, a bronze Alexander Hamilton, and zooming driveways and wrought pylons.

Chicago's Refrigeration Headquarters



Downtown Commercial District



10 REFRIGERATORS TO BE EXHIBITED IN NEW YORK CITY SHOW

NEW YORK CITY—Eight manufacturers and two distributors of electric refrigeration have already reserved space for exhibits at the National Electrical exposition to be held Sept. 20 to 30 in Madison Square Garden, under auspices of the Electrical Association of New York, Inc.

The manufacturers are Crosley Radio Corp., Grigsby-Grunow Corp., Norge Corp., Westinghouse Electric & Mfg. Co., General Electric Co., Gibson Electric Refrigerator Corp., Stewart-Warner Corp., and Grunow Corp. Distributors are E. B. Latham & Co., New York Leonard distributor; and Bushwick-McPhilben Co., Sparton refrigerator and radio distributor.

Other electrical product companies which have contracted for space at the exposition are Philco Radio & Television Corp., Stromberg-Carlson Telephone Mfg. Co., air-conditioning division of General Electric Co., RCA Victor Co., Premier Vacuum Cleaner Co., Halson Radio Mfg. Co., Nineteen Hundred Corp. (washing machines), Electrical Testing Laboratories, Utah Radio Products Co., L & H Range Co., Waters-Ganter Co., New York Edison and affiliated companies, McGraw-Hill Publishing Co., Radio & Electric Appliance Journal, Commercial Credit Co., Fada Radio & Electric Corp., Cover Co. (dishwashers), Electrolux, Inc., Colonial Radio Corp.

Committee in charge of the show is composed of D. W. May (chairman), president of May Radio & Television Corp.; J. H. McKenna, eastern sales manager, A. J. Lindemann & Hoverson Co.; J. J. Donovan, manager of General Electric Co.'s air-conditioning division; E. H. Hegarty, eastern merchandise manager of Westinghouse Electric & Mfg. Co.; B. R. Gates, eastern manager of Premier Vacuum Cleaner Co.; E. B. Ingraham, president of Allen-Ingraham, Inc., New York-Westinghouse distributor; H. C. Calahan, New York manager of General Electric Supply Corp.; A. Lincoln Bush, treasurer of Commercial Radio Sound Corp.; T. H. Joseph, president of E-J Electric Installation Co.; H. Linde, president of Triangle Radio Supply Co.; and Ralph Neumuller, managing director of the Electrical Association of New York, Inc.

42,000 ATTEND PORTLAND HOME & FOOD EXPOSITION

PORLTAND, Me.—Radio broadcasts over station WCSH were a feature of the General Electric kitchen exhibit which attracted more than 42,000 people at the recent fourth annual Home and Food Progress exposition here. The kitchen was sponsored by Cumberland County Power & Light Co.

Miss Clara Dean of General Electric Kitchen Institute in Cleveland gave radio talks each afternoon.

In addition to sponsoring this exhibit, the utility filled six other booths with General Electric refrigerators and ranges. Freezing and cooking demonstrations were carried out for the benefit of visitors.

As a means of advertising the show and G. E. products, 6,000 tickets to the exposition were sent to residents of this community with bills from the power company. Each ticket, with 10 cents, admitted the bearer; otherwise the charge was 25 cents.

R. E. Holden, commercial manager of Cumberland County Power & Light Co., and Guy G. Smith, advertising manager, arranged the exhibits.

Electrolux Sales Show Increase in May

NEW YORK CITY—May sales of the new air-cooled Electrolux gas refrigerator were 100 per cent above those in April, according to H. H. Springford, president of Servel, Inc.

Although the Evansville plant is operating on a double shift basis, April sales were 50 per cent in excess of factory estimates, and unfilled orders increased throughout May.

Mr. Springford stated that the company has leased a porcelain plant in Evansville to facilitate production, and that purchases for domestic installation are running ahead of apartment house orders for the first time.

Pollock to Represent Stewart-Warner

CHICAGO—H. A. Pollock has been appointed Eastern factory representative for the refrigeration division of Stewart-Warner Corp.

Beginning his refrigeration activities with Kelvinator Corp. in 1925, Mr. Pollock joined Westinghouse Electric Supply Co. in 1929. Since that time he has held many positions with Westinghouse in New York City, Canada, and the Pacific Northwest.



With the famous Rollator mechanism that provides extra cold even in highest temperatures and actually increases in efficiency with years.

This new Norge makes all other refrigerators obsolete... in style, in features, in mechanical operation. It looks... and is... years ahead of its time. • And profits!

Norge allows you a generous profit... and Rollator

Refrigeration, with its efficiency, its extra power, its freedom from service, permits you to keep that profit.

• In short, here's a fast selling line... "package" merchandise... with high profit and low service expense.

No wonder Norge is getting the big dealer following.

• Send for details.

N O R G E C O R P O R A T I O N
DIVISION OF BORG-WARNER CORPORATION
658 East Woodbridge Street, Detroit, Michigan

ALL-STEEL BEER COOLING EQUIPMENT

BY

Seeger
SAINT PAUL



Illustration of Novelty Box No. 2

SEEGER offers the fastest selling line of Modern Beer Cooling Equipment—for immediate shipment.

Every Brewer that has tested these items pronounced them efficient and economical. Here is the opportunity for fast and good profits on the equipment, compressors and coils.

NOVELTY BOXES—All Steel Construction

BOTTLE COOLERS & CHESTS—All Steel Construction

BARREL STORAGE COOLERS—All Steel Construction

MIDGET DISPENSERS—All Steel Construction

DEEP CHEST DISPENSERS—All Steel Construction

Mahogany-Walnut or Olive Green Enamel Finishes on Steel

Heavy Insulation

Nothing to Wear out

Nothing to Replace

All Electrically Welded

Heavy—Strong—Durable

WRITE OR WIRE FOR PRICES AND FULL DETAILS



Illustration Deep Chest Dispenser



Illustration Midget Dispenser

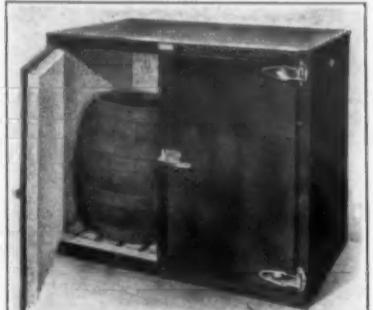


Illustration Barrel Storage Cooler

SEEGER REFRIGERATOR COMPANY
SAINT PAUL, MINNESOTA

232 Fourth Avenue
Fourth Ave. at 19th St.
NEW YORK, N.Y.

655-57 So. LaBrea Ave.
LOS ANGELES, CAL

666 North Wabash
CHICAGO, ILL.

644 Beacon Street
Kenmore Square
BOSTON, MASS.

165 Grunow Sales Representatives Attend Engineering Clinic

CHICAGO—Packing intensive study of Grunow refrigeration into three days and nights, Grunow Corp. conducted its first sales and engineering clinic here for distributors' sales managers and salesmen May 20 through 22.

One hundred and sixty-five members of the selling force from all sections of the country came to Chicago for the class.

After sessions which lasted all day Sunday as well as Saturday night, relaxation was provided the salesmen Sunday evening at Chen Paree, night club here.

Officers of Class

The class elected officers, and established themselves at the end of the conference as alumni of Grunow Sales and Engineering Clinic No. 1. Each graduate was presented with a Carnene fraternity pin, indicating membership in the class. Matching rings were also given those men who accomplished their quota in the Grunow Franchise Campaign.

Following officers were chosen: Robert Malcom, Grunow Illinois Co., Chicago, president; J. P. Miller, Brown-Dorrance Co., Pittsburgh, vice president of the East; Gordon Rudd, Radio Equipment Co., Dallas, vice president of the Far West; H. Johnson, Sidles-Duda-Myers Co., Lincoln, Neb., vice president of the Midwest; F. Lee Holland, Hughes-Bozarth-Angerson Co., Oklahoma City, vice president of the Southwest; W. K. Hayden, Specialties Distributing Co., Detroit, vice president of the North; Jack Hofheinz, Philip Werlein, Ltd., New Orleans, vice president of the Southeast; V. R. Howell, F. B. Connelly Co., Billings, Mont., secretary; and Ben Morgan, Tracy-Wells Co., Columbus, Ohio, treasurer.

Representatives at Meeting

Representatives of distributorships attending the meeting are listed below.

From Arnold Wholesale Corp., Cleveland: B. E. Booth, Canton, Ohio; W. E. Custis, Wm. F. Mack, and Harry G. Welfare, all of Cleveland.

Benton-Bailey Co., Richmond, Va.: T. D. Boone, Norfolk, Va.; and O. A. Gresham and Thomas Phillips of Richmond.

Brown-Dorrance Electric Co., Pittsburgh: C. M. Bachrach, L. L. Bohannon, William Brown, R. G. Dorrance, J. D. McLane, Joe Miller, J. K. Nichol, and O. J. Tope, all from Pittsburgh.

Brown Supply Co., St. Louis: F. A. Wiebe, St. Louis.

Buffalo Nipple & Mach. Co., Buffalo: B. F. Garlock, Wilson, N. Y.; Charles Keipper, F. W. Keliper, Clarence Pagel, and J. H. Wall all of Buffalo.

Cloud Bros., South Bend, Ind.: A. N. Cloud, R. E. Cloud, and C. G. Brown all from South Bend.

F. B. Connally Co., Billings, Mont.: V. R. Howell, Billings.

E. E. Forbes & Sons Piano Co., Birmingham, Ala.: J. L. Ausban, Birmingham; O. L. Baskette, Anniston, Ala.; Ernest E. Forbes, Jr., Birmingham; J. M. Forbes, Birmingham; George Jordan, Decatur, Ala.

Griffith Victor Distributing Co., Cincinnati: C. C. Dixon and Robert Schmidt of Cincinnati; and B. H. Wilson, Dayton.

Griffith Victor Distributing Co., Indianapolis: S. L. Griffith, Karl Oldberg, R. L. Parchman, and Joe Walls, all of Indianapolis.

Grunow Illinois Co., Chicago: D. E. Anderson, Chicago; G. K. Dentel, Oak Park, Ill.; Jay Gordon, Chicago; H. A. Malcolm, Chicago; C. E. Swarts, Winnetka, Ill.; and C. W. Thode, Chicago.

Grunow Products Sales Co., Newark: W. R. Garvey, Interlaken, N. J.; J. E. McDonnell, Newark; Anthony Mirabella, Newark; and S. G. Smith, Scotch Plains, N. J.

J. H. Hahn & Wheeler, Inc., Rochester, N. Y.: J. J. Hahn, Rochester; L. D. Helt, Horseheads, N. Y.; and Les Wheeler, Kenmore, N. Y. Hardt Music Store, Winona, Minn.: W. M. Hardt, Winona.

Harger-Blish Co., Des Moines, Iowa: Floyd G. Cooper, Woodward; H. F. Softon, Ft. Dodge; R. A. Bates, W. F. McCown, R. E. Miller, and J. A. Watt, all of Des Moines.

Hughes-Bozarth-Angerson Co., Oklahoma City: F. D. Cox, F. L. Holland, R. R. McGee, and R. E. Storr, all from Oklahoma City.

Motor Car Supply Co., Charleston, W. Va.: H. J. Monroe, Beckley, W. Va.; George Byers, A. K. Ferrell, B. A. Heater, and Emory R. Young, Charleston, W. Va.

Phelps Sales & Service Co., Louisville, Ky.: E. P. Carney, Evansville, Ind.; and R. I. Graves, Louisville.

F. D. Pitts Co., Boston: T. B. Croke, Boston; E. E. Doherty, Manchester, N. H.; A. B. Goodwin, Hartford, Conn.; U. R. Lamotte, Marlboro, Mass.; W. H. Luthie, Cambridge, Mass.; A. D. Moulton, Reading, Mass.; R. F. McKenna, Hartford, Conn.; A. T. O'Brien, Cranston, R. I.; L. M. O'Connell, Newton Highlands, Mass.; F. D. Pitts, Boston; Herbert Scott, Hartford, Conn.; and C. L. Root, Winthrop, Mass.

Republic Distributing Co., Grand Rapids, Mich.: L. A. Dagenais, Lansing, Mich.; and G. A. Hepfinger and C. H. W. Merrill of Grand Rapids.

Roskin Bros., Inc., Middletown, N. Y.: G. B. Birkhahn, Middletown; Nate Hast, Albany; Charles Houghtaling, Albany; William Hyman, Troy, N. Y.; Samuel Roskin, Albany; and Alden Truscott, Menands, N. Y.

The Roycraft Co., Minneapolis: H. D. Frishberg and William Markus, St. Paul; and A. R. Shields, Minneapolis.

Sidles-Duda-Myers Co., Lincoln, Neb.: H. T. Carpenter, Omaha; C. L. Carper, Lincoln; W. H. Crew, Shenandoah, Iowa; M. J. Drennan, Norfolk, Neb.; Lloyd Egbert, Grand Island, Neb.; C. M. Hedges, Denison, Iowa; Lee Huff, Jr., Omaha; E. J. Humaker, North Platte, Neb.; Harold

Johnson, Holdrege, Neb.; W. N. Lessousky, Omaha; C. D. Mack, Norfolk, Neb.; Guy Mohrke, Hastings, Neb.; H. E. Townsend, Lincoln; A. W. Unland, Norfolk, Neb.; and E. N. Wagner, Lincoln.

Southern Radio Co., Charlotte, N. C.; P. E. Lee, Greenville, S. C.; and E. B. Gurley and R. L. McGinn of Charlotte.

Specialties Distributing Co., Detroit: A. W. Atcheson, George Dean, R. C. Dikeman, W. K. Hayden, C. L. LaForge, J. B. Rennick, and Leonard F. Turnbull, all of Detroit.

Tracy Wells Co., Columbus, Ohio: E. L. Biesch, J. A. Burk, J. J. Getreu, George Matt, B. A. Morgan, C. C. Peters, and J. J. Robinson, all from Columbus.

Treadaway Electric Co., Little Rock, Ark.: E. F. Dixon, Little Rock.

Vernon Maurer Co., Milwaukee: W. B. Jones, Madison, Wis.; C. W. Kaestner, H. R. Lewis, S. R. Olsen, A. T. Snorf, and N. D. Weinberg, all of Milwaukee.

Philip Werlein, Ltd., New Orleans: P. S. Felder and J. A. Hofheinz of New Orleans.

P. W. Peck, Atlanta, Ga.: P. W. Peck, Jr., Atlanta.

V. A. Corcoran, Chicago, A. L. Clements, R. M. Oberhofer, and M. F. Goodheart of Dry-Zero Corp., Chicago; and C. L. Melka, representing DuPont Co., Chicago.

PIXLEY WILL DISTRIBUTE KELVINATOR IN COLUMBUS

COLUMBUS, Ohio—Pixley Electric Supply Co. of this city has been selected to distribute Kelvinator refrigeration in the Columbus area.

Formerly president of the one-time Kelvinator distributorship here, Erner & Hopkins Electric Supply Co., M. A. Pixley is chairman of the board of the company bearing his name.

President L. A. Pixley, son of the chairman, was once All-American guard on Ohio State university's football team.

L. R. Krumm, also from the Erner & Hopkins company, will head up the sales force. Secretary-Treasurer W. M. Linginger was formerly with General Electric Supply Co. as district auditor.

Seventy-six dealers in this territory heard George Ewald, Kelvinator district manager, present 1933 lines at a meeting in Columbus the latter part of May.

10,000 ATTEND THREE-DAY ROCHESTER, MINN., SHOW

ROCHESTER, Minn.—To see new equipment for the home and housewife, 10,000 persons filled Rochester's small armory at each performance of a three-day Electrical, Cooking, Food, and Style show held recently under the auspices of the City Electric Light & Water department.

A stage, on which the cooking demonstrations and fashion parades were conducted, occupied one end of the hall, while display booths were placed around the walls.

One of the entertainment features was "Willie Vocalite," Westinghouse robot.

Earle R. Warnes of the City Public Relations department, and L. A. Cowles, superintendent of the City Electric Light department, were in charge of the show.

\$32,000,000 Released In New Orleans

NEW ORLEANS—Releasing approximately \$32,000,000 to depositors, two new national banks opened here May 22, replacing the two state banks which have been operating on a 5 per cent restricted basis since the national bank holiday in March.

The Hibernal National Bank, which paid out 4 per cent of deposits (about \$14,000,000), supplants the Hibernal Bank & Trust Co. The former Canal Bank & Trust Co., now the National Bank of Commerce, made payment to depositors of 30 per cent of frozen balances, or approximately \$18,000,000.

Assets of the National Bank of Commerce were set at \$20,600,565.66, with deposits totaling \$17,600,565.66, with Hibernal National Bank reported assets as \$17,165,583.59, and deposits \$14,165,583.59.

3 DEALERS JOIN SAN DIEGO REFRIGERATION BUREAU

SAN DIEGO, Calif.—Electric Refrigeration Bureau here has added three members to its roster, according to J. Clark Chamberlain, secretary-manager.

The new members are Gill Electric Co., Norge and Buckeye dealer; W. H. Harmes, Electrolux; and San Diego Auto Electric Co., Grunow and Gibson.

7 FRIGIDAIRE SOLD IN 1 DAY BY SALESMAN

VRENDENBURG, Ala.—R. K. McMillan, Frigidaire dealer in this town of 815 people, recently sold seven refrigerators in a single day. Four were models of the Frigidaire deluxe line.

3 STATES CONSIDER MERCHANDISING CODE

OMAHA—Growing out of a series of conferences among representatives of the retail hardware trade and the gas and electric utilities of Colorado, New Mexico, and Wyoming, a code of practices for the merchandising of gas and electrical appliances has been accepted by the Mountain States Hardware and Implement Dealers Association and the Rocky Mountain Electrical Association.

It has also been approved, according to George E. Lewis, managing director of the Rocky Mountain Electrical Association, by associations of plumbers and steam-fitters, electrical contractors and dealers, and is being considered by the group of furniture dealers who sponsored anti-utility merchandising legislation in that territory.

The code, which is published in full below, is a revision and simplification of the code published on page 16 of ELECTRIC REFRIGERATION NEWS for May 17, 1933.

Foreword

This code, growing out of a series of conferences among representatives of the retail hardware trade and the gas and electric utility companies of Colorado, New Mexico, and Wyoming, has been accepted as the basis for future merchandising practices and principles. It is subject to change, modification, or amendment, as conditions warrant.

It is the sincere hope that other dealers in electrical and gas appliances to whom this code will be submitted, will subscribe to its tenets and join in the effort to stabilize business on a high ethical plane, in the interest of themselves and the public.

Code of Merchandising Practices for Gas and Electrical Appliances

General principles applying to the retail gas and electrical trade, including utilities, are stated in Section I, while principles and policies subscribed to by the utilities are given in Section II.

Section I

1. All appliances offered for sale should be of standard makes and quality, preferably of American manufacture.

2. Premiums or free merchandise should not be offered to induce sales, except when included in national selling plans of manufacturers, and such national selling practices should be discouraged.

3. All dealers should discourage free trials or demonstrations on all appliances which have a reasonable customer acceptance, excepting that prospective customers may have opportunity to determine whether appliances are of the type and character desired.

4. All dealers should sell appliances that have reasonable customer acceptance, at prices arranged to return fair profit consistent with present-day merchandising practices.

5. The effort of all factors in gas and electrical appliance distribution should be to eliminate credit terms as a basis of competition. Instalment terms should conform to those required by established and recognized finance companies operating in the Rocky Mountain region.

6. It is recommended that carrying charges be not less than one-half of 1 per cent per month, applied to balance remaining after down payment. Merchandise should be marked either at the cash price, plus a carrying charge, or at the term price, less the proper discount for cash.

7. The maximum payment period for major appliances, such as electric ranges, refrigerators, automatic heaters, and house-heating equipment, should be 24 months. Shorter terms, proportionately, should be offered on appliances selling for smaller sums.

8. On trade-in allowances, the loss on the resale of the article traded in should not exceed 5 per cent of the established retail price of the new article sold, except when included in national selling plans of manufacturers.

9. On the sale of any appliances retailing for less than \$10 (except automatic irons selling for \$5 or more) and on other items sold on open charge account, billing should be net 30 days, or when sound credit and effective sales promotion allow, net 60-90 days.

10. It is recommended that all merchandise carry only the manufacturer's guarantee, together with the stated participation of the retailer in such guarantee.

11. All advertising and other representations to the purchaser should be in conformity with these principles.

12. Nothing in this statement of principles shall prohibit deviations therefrom to meet competition in any particular community. It is obvious, however, that substantial departure from these principles is unsound.

Section II

Appliances sold through any dealer add to the load of the utility, and the latter should, therefore, take the initiative in establishing cooperative merchandising plans. Utilities should con-

fer with merchants to eliminate complaints and misunderstandings, and the causes of such.

1. Utilities should not, through their salesmen, in any of their advertising, or as part of their promotional activities, make reference to the fact that merchandise payments can be made with monthly bills for gas or electric service.

2. As a cooperative measure to increase their own loads and to stimulate sales on appliances generally, the utilities should as frequently as possible include in, or with, their monthly statements for service, advertising for the benefit of all dealers.

3. Sales of major appliances should be confined to those communities where gas or electric service is provided by the utility. All sales made on the floor to persons residing outside the territory served by the utility, directly or indirectly, should be for cash, and such sales should not be solicited or encouraged.

4. No appliance or merchandise not directly related to the use of gas or electricity should be sold by utilities.

5. Utilities should design some of their advertising to permit all other dealers to tie in with or otherwise benefit from it. Direct reference to other dealers in such advertising is recommended.

6. To promote public acceptance of

newly introduced gas or electrical appliances, the utilities should present to the public such devices on a promotional basis, not a merchandising basis, as provided for in these principles.

7. Where installation costs are borne in whole or in part by a utility in connection with its merchandise sales, the same plan should be extended by the utility on similar sales by other retailers, all appliances to be marked "Including Installation" or "Plus Installation charges."

8. It is for the common good that adequate financing service for installation sales shall be available to all established retailers. As it is to the interest of utilities to secure the maximum number of appliances on their lines, they should cooperate in any plan to make available to all dealers adequate financing service for installation sales.

9. In many instances cooperative appliance campaigns on automatic irons and other appliances by utilities and other dealers have proven successful. It is recommended that utilities encourage and participate in such activities.

**Mountain States Hardware and Implement Dealers' Association
Rocky Mountain Electrical Association**

13 STATES APPROVE LAWS TAXING SALES

WASHINGTON, D. C.—A state sales tax has been enacted by legislatures of 13 states, according to information available June 1.

The tax was effective in nine of the states on or before June 1, and will be effective in the other states within the next few months.

States in which the tax is now in effect, and the basic provision of the tax laws, are as follows: Arizona— $\frac{1}{2}$ per cent on manufacturers and wholesalers, 2 per cent on retailers; Indiana—1 per cent on retailers, $\frac{1}{4}$ per cent on manufacturers and wholesalers; Mississippi—2 per cent on retailers; New Mexico—\$10 on retailers' gross sales of \$3,000 or less, up to \$1,950 on gross sales of \$400,000; and additional \$25 for each \$1,000 over \$400,000; New York—1 per cent on retailers; Utah—2 per cent tax on retailers; Vermont— $\frac{1}{4}$ per cent to 4 per cent on retailers, according to gross sales; Washington— $\frac{1}{4}$ per cent on articles manufactured, compounded, or prepared for sales; .1 per cent on articles grown or raised; .3 per cent on gross sales of wholesalers; .5 per cent on retailers; West Virginia— $\frac{1}{5}$ per cent on retailers.

The North Dakota law, which becomes effective July 1, provides for a $\frac{1}{4}$ per cent tax on manufacturers, $\frac{1}{4}$ per cent on wholesalers, and 2 per cent on retailers.

The Oklahoma sales tax becomes effective June 30 and provides for a 2 per cent tax on retailers.

The Oregon law, effective July 1, provides for a .3 per cent tax on manufacturers, .3 per cent on wholesalers, and 2 per cent on retailers.

South Dakota's law is effective on July 1 and provides for a $\frac{1}{4}$ per cent tax on manufacturers, $\frac{1}{4}$ per cent on wholesalers, and 1 per cent on retailers.

Allen-Ingraham Opens Two Branches

NEW YORK CITY—Two new showrooms in Westchester, replacing Werco, Inc., former dealer in Mt. Vernon and New Rochelle, are being opened by Allen-Ingraham, Inc., Westinghouse distributor here.

The New Rochelle office will be in charge of Jack Ryan, formerly floor man in the Bronx store. J. McDonnell, former head of the New Rochelle office of Werco, Inc., will manage the Mt. Vernon showroom.

Each store will be self-supporting.



IF YOU'RE INTERESTED ...

We're easy to find at *American Furniture Mart* during summer market beginning June 26th—at Space 761. Servel Hermetic and Servel Crusader representatives will show you a complete line of household and commercial electric refrigeration and explain the Servel way to profit.



● **ASK ABOUT ...** These startling new price reductions on the Crusader, the "quality price line" ... the new low prices on Servel Hermetic, the finest electric refrigerator money can buy.

● **GET THE DETAILS ...** Of the generous allowance for local dealer advertising—of increased discounts so dealers can and will make a profit.

● **LEARN MORE ABOUT ...** The selling advantages in the new features of Servel Hermetic—greater food storage capacity—electrically lighted interior ... chromium enclosed trays—and vegetable crispers.

SERVEL HERMETIC and SERVEL CRUSADE Electric Refrigerators

at...
"A CENTURY OF PROGRESS"

Servel will show the most complete line of automatic refrigeration in the world today.

SERVEL SALES, INC., EVANSVILLE, IND.

A CENTURY OF PROGRESS

NINE SMALL HOMES ARE SHOWN AT FAIR

CHICAGO—The new small house with the last word in modern efficiency equipment and the last word in modernistic furniture is being shown in a group of nine examples, all ready to live in, built as a display at A Century of Progress.

The home-building world has been buzzing with ideas for building houses with ready-made units, so they can be erected in days instead of months, costs to be cut as much as 50 per cent and the result to be super-comforts with all the benefits of up-to-date science.

The group at the World's Fair shows how it is done. There are two all-steel houses, three built of wood composition materials, one of stone composition, an all-lumber house, an all-brick house, and a glass house.

The furniture varies from the extremely modernistic metal, glass, and patent leather chairs and tables to more conservative adaptations. Wall coverings and draperies vary from cellophane to browned sheet copper.

All the modern house group are alike in having no cellars, having built-in garages, compact heating plants of various types, and by means

of solariums and roof decks, making the utmost use of air and sunlight for health and recreation. The all-lumber house is the only one with a peaked roof.

The student of modern architecture and decoration will have every opportunity to fill up with ideas in these examples by well known architects and decorators representing the new movement. Complete exhibits of equipment are in Home Planning Hall, situated in the center of the group.

Also in the group is a Florida house, illustrating the luxurious treatment of a tropical home, and a pavilion for the exhibition of de luxe period and modern furniture and decoration.

The Southern Cypress Manufacturers Association has built a house for the display of uses of cypress.

SEARCHLIGHTS PLAY ON STEAM CLOUDS

CHICAGO—To paint designs of color on the sky and on great clouds of steam to be released at certain intervals, huge banks of searchlights have been installed in the Century of Progress grounds here in Chicago.

The searchlights were built in the Edgewater Park plant of the Westinghouse Electric & Mfg. Co. in Cleveland.

Highest Quality Apparatus for the Assembler, Distributor and Service Engineer..



"M&E" Domestic or Water Cooler Compressor—70B



"M&E" Commercial or Air Conditioning Compressor—A-1100

MERCHANT & EVANS CO.
PHILADELPHIA, PA.

Est. 1866

7th YEAR IN ELECTRIC REFRIGERATION

COMMERCIAL COMPRESSORS
—up to 3 H.P. Air cooled,—air and water cooled,—and water cooled. Adapted to Air Conditioning, Beer Cooling, Refrigerated Display Cases, Ice Cream Cabinets,—all commercial uses.

DOMESTIC COMPRESSORS
—for self contained or remote installation. Special extra-compact type (illustrated), for small popular priced household refrigerators or self-contained pressure or bottle water coolers.

The "M&E" plant, Lancaster, Pa., is large, modern, and has great capacity for finest special or standard production. Data sheets on request—or submit any special problem.

ADDITIONAL DISTRIBUTORS WANTED



"M&E" Self-contained Pressure type Water Cooler. Low priced. Handsome design and finish. Very efficient.

WORLD'S LOWEST-PRICED QUALITY BEER COOLER

THE NEW SUPER-FAST ELECTRIC BEER COOLER

The new Super-Fast electric beer cooler is unquestionably the last word in advanced design and modern all-steel reinforced construction. It can be purchased at less than the daily cost of ice, yet it has features never before offered at any price. The Super-Fast is, for example, the first three-way unit, combining not only ample space for bottled beverages but also drinking fountain attachment and storage tray for sandwiches or candy. Designed and built by refrigeration experts, this cooler can maintain a constant temperature for days, weeks or months at a time. It is the kind of cooler that makes satisfied customers and brings repeat business.

ELECTRIC BEVERAGE COOLER CO.
421 South Delaware Street, Indianapolis, Indiana



FULLY AUTOMATIC

Above is the Super-Fast Model A—one of eight new units. The Model A cools 192 twelve-ounce bottles every hour. It is handsome in appearance—16-gauge reinforced steel throughout with chromium-plated brass hardware (rust-proof). Dimensions are 69 inches long; 25 inches wide, and 35½ inches high. Latest type mechanical unit.

- 84° TO 38° IN EXACTLY 30 MINUTES
- UNFAILING UNIFORM COOLING, DAY IN AND DAY OUT

DISTRIBUTOR OPPORTUNITY

The Super-Fast offers an excellent sales opportunity for distributors and representatives in all parts of the country. Sales easy by meter-purchase plan. Desirable territory now open.

WRITE OR WIRE TODAY

Electrical Exhibit Demonstrates Use Of Power in Home & Business

CHICAGO—How electricity may be used to make living more pleasant, business more profitable, and industry more efficient is shown by the exhibit of the light and power industry at A Century of Progress here. Called "Electricity at Work," the exhibit is composed of more than 30 individual displays, and is located on the second floor of the Electrical building.

One unit of the exhibit is a model office, having indirect illumination combined with ultra-violet ray treatment, a number of electrically operated business machines, air conditioning, and other electrical devices.

The office typewriter is electrical, and has a variety of type styles and sizes. Built into one desk is another typewriter on which the operator types a stencil, then pushes a button and leaves it to reproduce the letter in perfect typing with only occasional attention. Another machine sets type from which another machine makes rapid reproductions.

Model Bake Shop

In a tiny bake shop, one-fourth natural size, is a demonstration of how electricity may be utilized to give maximum effectiveness to displays of bakery goods, and how it serves to operate the baking equipment, ventilate the shop, and keep it at an ideal temperature.

A model store front is another feature of the merchandising display. Above the store front is an electric sign of flashed opal glass against a background of black. The floor of each window revolves constantly, while colored lights play upon the merchandise shown there.

Index of Food Sections

In the exhibit's model grocery store is demonstrated the use of electricity not only for lighting the store in general, but for indexing the various food departments for the convenience of customers.

Indexing lights are concealed in a glass joist which runs the entire length of the store, projecting out above the top shelves, so that light floods down from it over the shelves and forward from the joist, illuminating the lettered announcements concerning food sections.

At the rear of this model store are several electrically refrigerated display cases, all brightly lighted. The entire store is air conditioned.

One of the most interesting displays in the entire exhibit is that of the model restaurant, which is also built on a one-quarter scale. The little restaurant has a 50-seat capacity, chairs being arranged about a U-shaped counter.

In the center are food storage cabinets—refrigerated cabinets for display of perishables and electrically warmed ovens for hot breads. At the rear of the room is a grill, where all food is prepared. An electrical ventilating and air-conditioning system prevents all

heat and food odors from reaching patrons, however.

The lighting system is so constructed that non-glaring light is thrown over the entire area where customers are seated, while other lights throw ever-changing light patterns on the ceiling of the room.

Lighting of Dress Shop

Women visitors at the electrical exhibit will probably be much attracted by the miniature dress shop, which demonstrates how modern illumination systems may have both beauty and utility.

On both sides of the sales foyer, dress cases are recessed in the walls, with special lighting focussed upon the gowns inside. Another band of lights extends rainbow-fashion across the entire foyer to cast a restful light over the whole salesroom.

At one corner of the foyer is a small stage, where tiny mannequins appear at half-minute intervals to show modes of the moment, while spotlights are thrown upon them. In the elevated rear portion of the store are indirectly illuminated dressing rooms, and at the back wall are a series of mirrors, with columns of soft lights rising to shoulder height from them, while other light plays down from above.

Air-Conditioned Room

The model living room in this exhibit is nothing short of a housewife's dream. In the first place, it is completely air conditioned. It is lighted indirectly from coves bordering the ceiling, from which bulbs throw a bat of light over the walls.

For decorative effect and close work, there are numerous floor lamps, one of which is an ultra-violet light. The bookcase is lighted from concealed sources, and atop the case is a statue illuminated by a tiny floodlamp.

Most interesting feature of this display is the Clavilux, an electric projector which at the pressing of a button plays tunes and throws appropriate color patterns on one wall of the room. In the same cabinet is a talking motion picture machine which also uses the wall for a screen.

The radio, housed in the bookcase, is operated by remote control from a seat across the room. Engineers at the display say that the Clavilux will soon be developed, along with television, so that it will offer a complete synchronization of color, vision, and music.

Window draperies open and close by push-button control. Inserted in the baseboard is a wired outlet strip which makes it possible to insert electrical plugs at 10-in. spaces around the entire room.

Model Basement

On display in a model residence basement is an air-conditioning system in operation, attended by exhibitors who point out to visitors the various functions of complete air conditioning and how they are accomplished by the equipment in use there.

Four other units of the main exhibit demonstrate the uses of electricity in modern industrial shops, operating rooms, greenhouses, and on farms.

'Kompak Passimeters' Used at Gates

CHICAGO—"Kompak Passimeters"—a new type of turnstile—have been installed at entrances and exits to the grounds at A Century of Progress to record and transmit directly to the administrative offices the number of visitors who enter and leave the grounds.

These new type turnstiles are manufactured by the Perey Turnstile Co. of New York City, which is also supplying devices to collect admissions at the Fair's amusement concessions and prepayment stations.

Features of these turnstiles are their small space requirement and modernized design.

COOPERAGE PRODUCTS TO BE DISPLAYED

CHICAGO—Manufacturers of kegs and barrels for beer and food products, slack cooperage, staves, hoops, etc., will see prime examples of their craft exhibited in the booth of the Associated Cooperage Industries of America in the Agricultural group at the World's Fair this summer.

Members of this association will hold a convention June 21 to 23 at the Auditorium hotel in Chicago.

STANDARD OIL TO SHOW PICTURES OF INDUSTRY

CHICAGO—Sound-and-color motion pictures shown simultaneously on four screens are a feature of Standard Oil Co.'s exhibit at the World's Fair in the Travel and Transport building. The pictures will present the story of oil, progress made in its production, and the part it plays in industry today.

PENNY PER BUILDING IS COST TO VISITORS

CHICAGO—Less than one cent an exhibit building is the cost of seeing A Century of Progress—the Chicago World's Fair of 1933.

The general admission—50 cents for adults and 25 cents for children—will admit one to the 20 buildings erected by the exposition itself and to all the 33 special buildings put up by outside interests at the fair.

These great buildings, including the vast structures that are the marvels of modern architecture, and the enormous range of fascinating exhibits they contain, are the fair.

The Hall of Science alone, with its comprehensive range of action exhibits covering the whole field of the basic sciences and their contributions to the advance of industry, is, in itself, if you saw nothing else, worth a trip half way around the world.

The special buildings erected by representative great industries and interests are packed with moving exhibits arranged at the cost of millions of dollars.

All this pageant of marvels is what you have come to see and the gate admission takes you to them all. You will find every facility for your care and comfort without your spending another cent.

General Exhibits

Here is what the visitor may see without further charge when he has entered the gates:

Hall of Science
Illinois Host building
General Exhibits Group (five buildings)

Home Planning Hall
Gas Industries Hall
Maya Temple
Travel and Transport building
Transportation Dome
Dairy building

Food and Agricultural building
Illinois Agricultural building
U. S. Government building
States building

Hall of Society Science
Radio and Communications building

Electrical building
Sears-Roebuck building

Japanese Pavilion
Italian Pavilion
American Radiator and Standard Sanitary Corp.

Fireside building
Time and Fortune building

Christian Science Monitor building
Hall of Religion

Home and Industrial Arts Group (12 buildings)

Johns-Manville building
Owens Landscape Pavilion

General Motors building
Curtis Air Show
Chrysler building

Poultry Show
Polish Pavilion

International Harvester building
Edison Memorial

Crane building
National DeSable Memorial Society

Press building
Whiting Corp. and Nash Motor building.

MAJESTIC OPENS ROOMS FOR VISITING SALESMEN

CHICAGO—For the convenience of its Majestic refrigerator and radio dealers who visit A Century of Progress here this summer, Grigsby-Grunow Co. has rented accommodation quarters at 616 South Michigan Ave., just a short distance from the fair grounds.

At this address will be reading and writing rooms, refreshment counters, and general information offices at which the dealers may secure information regarding the exposition and the city itself, or make arrangements for escorted tours through the Grigsby-Grunow factory.

The quarters will be open day and evening during the remainder of the fair. Mrs. M. J. Gerry will act as official hostess.

WESTINGHOUSE PRODUCES ULTRA-VIOLET PICTURES

CHICAGO—An interesting exhibit at A Century of Progress here is a painting in Westinghouse's ultra-violet display.

A new kind of coloring substance, developed by Alexander Strobl makes it possible to have two paintings in one.

Invisible under ordinary light, these Stroblite colors do not change the appearance of the original coloring and scene. In darkness, however, when subjected to the ultra-violet rays from a Westinghouse black bulb lamp, the scene changes because only the Stroblite colors become visible.

Under ordinary lighting, the painting shows a view of children at play before a lake, but when the lights are turned out and painting is subjected to the ultra-violet rays from a Westinghouse black bulb lamp, the scene shows the children in their nursery getting sunshine from an ultra-violet lamp.

Mueller Brass Co., advertisers in Electric Refrigeration News for the last 6 years, manufacture, in addition to electric refrigeration valves and fittings, STREAMLINE Copper Pipe and Fittings for Plumbing, Heating, Refrigeration, Gas, Air, Oil and Vacuum Lines; Brass forgings, used in hundreds of diversified industries from locomotives to sewing machines; Screw Machine Products; Seamless Copper Tubing; Brass and Bronze Castings; Welding Rod and Fabricated Parts; Chrome and Nickel Plating.

Mueller Brass Co.

PORT HURON, MICHIGAN
OFFICES IN PRINCIPAL CITIES

May 11th, 1933.

Electric Refrigeration News,
550 Maccabees Building,
Detroit, Michigan.

Attention: H. W. Mateer.
Gentlemen:-

Inclosed with this letter is copy and engraving for our next ad in the News. You will note that this is featuring specifically another number of our new line of full flow heavy duty valves that are so much in demand for large commercial installations and air conditioning work, and that mention is again made of the fact that we manufacture a complete line of forged brass valves and fittings for the electric refrigeration trade.

Kindly see that the words "For Heavy Duty" are brought out more bold, and that the words "Full flow" as indicated in the copy are also bold face.

We are in a very great hurry these days and could not give as much time as we would have liked to, to the lay-out of the ad. However, I think it will be just as clear to your compositor as if we had taken more time with it.

It would probably interest you to know that the two ads immediately previous to this one were keyed, and that they produced twenty-nine orders and about forty inquiries. There was no question about it because the articles advertised were given different catalog numbers and appeared nowhere else, as our catalogs on electric refrigeration had not yet been sent out.

Yours very truly,

MUELLER BRASS CO.

By J.R. Wightman
Advertising Manager

CABLE ADDRESS: STREAMLINE - PORT HURON, MICHIGAN - CODE: WESTERN UNION

LB

ROD AND TUBING

J.R. Wightman

LB

FORGINGS

CASTINGS

SCREW MACHINE PRODUCTS

STREAMLINE HARD COPPER PIPE

ED

ELECTRIC REFRIGERATOR VALVES AND FITTINGS

Thanks Mr. Wightman
Glad to know business is good.
Other advertisers are getting
results too.
Looks like 1933 is going to be a big
volume year for Electric Refrigeration

H.W. Mateer
adv. mgr

ELECTRIC REFRIGERATION NEWS

The Newspaper of the Industry

Published Every Week by

BUSINESS NEWS PUBLISHING CO.
Also publishers of REFRIGERATED FOOD NEWS (monthly) and
REFRIGERATION DIRECTORY and MARKET DATA Book (annual)
550 Maccabees Building, Woodward Ave. and Putnam St.,
Detroit, Michigan. Telephones: Columbia 4242-4243-4245

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Breaking Records

FRIGIDAIRE will probably manufacture more refrigerators this month than it has made in any previous month in its long history, it is reported by Dayton sources. Over a period of years Frigidaire has probably been the world's largest producer of household and commercial refrigerating equipment, and for so large a factor in the industry to be having the biggest month of its history in June augurs two things:

1. That 1933 should be one of the best years in the history of the refrigeration industry.

2. That the 1933 selling season will probably be extended further into the summer than has hitherto been the case.

Lest the discerning reader fear that we are jumping to conclusions too quickly and indulging in hasty generalizations because of the success of an individual company, we should point out that:

1. Kelvinator had the biggest month in its history in May, following a record-breaking April. The company manufactured 43,357 electric refrigerators during May while in April, 30,116 units were produced. Kelvinator is not only the oldest manufacturer of household electric refrigerators, but is one of the three largest. Its June production schedules are marked high, and Kelvinator officials can see no let-up ahead.

2. Norge, which is easily one of the leaders in the industry, scored its second successive record month in May. This, in spite of the fact that Norge men set up some marks for themselves last spring that were so high they doubted that they ever would equal them again.

3. Westinghouse is enjoying the best year of its history. Sales during the first quarter of 1933 were almost twice those of the similar period last year, and the curve has continued to climb in the ensuing weeks.

All of these facts substantiate the observations made by members of the ELECTRIC REFRIGERATION NEWS staff during the last two months in their extensive travels interviewing dealers: viz., that electric refrigeration is a "hot" line this year.

It may be that the new styled cabinets are "catching on" and appealing greatly to the public favor. It may be that the news of mechanical improvements and relative freedom from service worries has spread, and that cautious purchasers have decided that they can now purchase one safely. It may be that people are rushing to convert dollars into goods, anticipating inflation and rising prices. Or it may be that the cumulative effect of the heavy and continuous advertising and promotional efforts of the last half dozen years is battering down the last barriers of sales resistance toward electric refrigeration.

Whatever the cause, salesmen, dealers, distributors, and manufacturers are rejoicing that their labors are fruitful, and the gloom of '32 is being dispelled by the hearty cheer of '33.

Nor is it all over. Most sales managers are willing to lay bets that this year heavy selling will continue well into July, and even August. If their forecasts are true, sales organizations which decide to call it a day in June, lock up shop, and go fishing may sadly miss a fine opportunity to haul in the business.

Commercial Prospects

SIGNIFICANT indeed to many observers is the appointment of J. A. Harlan to the commercial sales management of Kelvinator, and W. D. McElhinny to the commercial sales management of Frigidaire.

For a long time neither of these concerns, which claim to be the two largest producers of electric refrigeration products in the industry, has supported an executive with the title of commercial sales manager. And now, within a short space of time, they have selected two of the most prominent sales directors in the industry to head sales of their commercial refrigeration products.

Mr. Harlan was for many years vice president in charge of sales for Frigidaire. Mr. McElhinny was for an equivalent period vice president in charge of sales for Copeland. Both made outstanding records in these positions. That they have been named commercial sales managers of two of the industry leaders signifies that these leaders expect their commercial divisions to become highly important in the near future.

Another indication that those in the seats of the highest can discern a big commercial business on the horizon of the future is the fact that so many manufacturers have extended their commercial lines this year.

General Electric, Frigidaire, Kelvinator, Universal Cooler, Westinghouse, Williams Ice-O-Matic, Servel, and others have made notable additions to their commercial lines this spring. Larger units, more units, new water coolers and air conditioners, display cases—all these are now being manufactured by concerns which once concentrated upon household refrigerators.

Manufacturers of big refrigeration machinery like York and Frick have also extended their lines to include equipment for all types of commercial installations.

It seems clearly evident that the refrigeration industry is preparing for an upswing in commercial business. Say dealers all over the land: "It's about time!"

WHAT OTHERS SAY

CHALMER T. MUTHNER

TO meet Chalmer T. Mutchner was to like him; to know him was to love him. Newspaper man, former service man, and publicity and public relations counsel for one of Dayton's largest industries, no man had better opportunity to obtain personal publicity and—none improved it less. His friends were legion, and if he had an enemy none knew it.

His outstanding characteristics were fidelity and an energy that knew no bounds in the course of duty. Alert, resourceful, and indefatigable, he was one of the best newspaper men that Dayton ever knew, although he worked without signature or "by line" in his profession. He preferred to have it so, to be just a worker in the ranks, although for more than half a decade he was the "star" of *The Dayton Herald's* staff of reporters.

Dispensing publicity, he wanted none of it for himself. Many a story of more than local or state importance went over the wire without the name of "Mutch," although it was exclusively his, patiently but brilliantly worked over to bring out every important detail. Men high in city and state affairs were not afraid to trust him, for he never betrayed a secret or a confidence in him, and never was it abused.

The World War changed the course of his life. He came back from overseas somewhat impaired in health, and decided to adopt a less strenuous career. His industrial relationships carried him into all parts of the country. Few men had more friends in the newspaper fraternity than he. From coast to coast and from Canada to the Gulf of Mexico, he was "Mutch" to hundreds of editors, advertising men, publicity directors, directors of chambers of commerce, and industrial authorities.—*Dayton Herald*, May 30.

HE NEEDS TO BE RUGGED

SEMI-OFFICIAL explanations of the new theory of government about to be brought into force at Washington distinctly imply the end of American "rugged individualism." Paraphrasing the poet, the individual is to wither, and the State become more and more. However, it appears that one modest function is to be left to the individual. He is to pay the taxes—to foot the bills of a benevolent and paternalistic government. If he has any savings, he must be prepared to sacrifice them for the larger good. Should any personal income accrue to him, he is to pay increasingly high rates on it. His investments will be impaired. His credit will be restricted.

Obviously, it will be necessary for him to be exceptionally rugged to stand up under this process, and be cheerful about it. Those who subscribe to the plan of making the Government all in all, have a sublime faith in the perfection of their own theories. But they must have a still sublimed faith in the ability and willingness of the rugged individual to come forward gladly not only to count the cost thereof but to meet it out of his own inexhaustible pocket.—*The New York Times*, May 23, 1933.

LETTERS

Discounting

San Diego County Electric
Refrigeration Bureau
San Diego, Calif.

May 8, 1933.

Editor:

Competition is keener than it has ever been. Dealers and their men are striving as never before to develop satisfactory sales volume, and constant crossing of each other's paths is inevitable. Frequently, eight or ten makes are competing on the same job, particularly in the apartment house division, and all but one must lose out.

In many of these cases, men are played against each other by the purchaser with the express intention of creating the type of rivalry that causes prices to be cut.

Otherwise honest and conscientious people will indulge in prevarication of this sort, evidently because as Dr. Allison once said, "They are not lying—they are making money." But it is lying of the most despicable type when it causes good firms and their representatives to believe that other good firms are not playing square.

True enough, all the evidence is the customer's word as a rule, but unfortunately most salesmen are ready to take this as fact, particularly if they have lost an order and the purchaser has indicated that discount did it.

Discounting apparently is impossible to eradicate completely even under ideal conditions, and when all faith is placed in the prospect and none in the competitor, it is impossible to control.

Recently, a thorough investigation of a case in point disclosed the fact that two fine firms here were convinced through a certain sale, that the other fellow was discounting and offering to discount, when as a matter of positive fact both firms, one in losing and one in gaining the sale, stuck to the price. The prospect first convinced both parties that the other fellow had offered to discount in an effort to break one down. Finding himself unable to budge either house (even though both thought the other had offered concessions) he bought from one at full price, telling the other he did so because of a "better price."

Fortunately, in this particular case, the facts were later presented to both parties, proving a revelation in customer tactics and strengthening the resolve of those concerned to have more faith in each other.

This illustration is typical of several that have been investigated by this office, but we hasten to say that sometimes fire is found where there is smoke; discounting has not been completely eliminated. Most of it is a direct result, however, of the customer tactics described, for it seems perfectly human to protect one's interest by matching the proposition the other fellow is supposed to have made, with accent on the supposed.

J. CLARK CHAMBERLAIN,
Secretary-manager.

Ice Melting Capacities

Square Deal Electric Co.
Chillicothe, Mo.

Editor:

We were very much disappointed in the recent edition of ELECTRIC REFRIGERATION NEWS giving specifications for various makes of electric refrigerators, by reason of the fact that the M.I.E. capacity was not given on a number of refrigerators.

We especially wish to know the M.I.E. capacity for the following makes of refrigerators—Standard models Frigidaire, Norge, Trukold, Crosley, Coronade, General Electric, Servel, and Gibson.

It seems to us that the M.I.E. capacity is the most important single item connected with the specifications of an electric refrigerator. Without this, your highly advertised value of ELECTRIC REFRIGERATION NEWS is lost. The M.I.E. specifications on other makes not mentioned in this letter are given.

Please give this matter your prompt attention, and if possible let us have a letter giving the specifications requested at the earliest possible moment.

G. A. RINGWALD,
Proprietor.

Complete File

Hammel Advertising Corp.
Los Angeles

May 8, 1933.

Editor:

We are enclosing our check in the amount of \$3 to cover one year's subscription to ELECTRIC REFRIGERATION NEWS. You may start this subscription as far back in this year as you may have old copies, as long as they are consecutive issues.

Heretofore we have had to "steal" our issues and now feel that we should maintain a complete file of your very much worth while publication.

STUART L. KLINGELSMITH,
Vice president.

Information Desired

24 Matai Rd., Green Lane,
Auckland, S.E.4, New Zealand

Editor:

I like your paper very much indeed; it certainly keeps one posted on the latest developments in domestic refrigeration. In this connection I would be very much obliged if you could send me full particulars of the Norge refrigerator especially information relating to the compressor, its construction and operation.

In common with most other countries of the world, New Zealand has experienced the full effects of the business depression now prevailing, and conditions here are nearly as bad as they are in U. S. A. However, they must get better, and when they do things will boom.

In the meantime I am laying plans to start in and manufacture refrigerators here for our own market. I have already built several and they are giving excellent satisfaction. The machines were built to the Universal Cooler Corp.'s specifications and worked out well.

I am interested in investigating rotary compressors and any information you can give me regarding this type of pump will be welcome.

We can make everything here with the exception of the thermostatic control gear and the expansion valves. These have to be imported from the United States. With the dollar at 3.34 to the pound sterling (4.86 to the pound is par exchange) and on top of this our New Zealand money is depreciated 25 per cent on London exchange, through which all payments to U. S. A. from New Zealand are made.

To add to the irony of the situation, our government has imposed a duty of some 60 per cent on imports from America and what with freight, insurance, bank, and landing charges to say nothing of packing and interest charges on letters of credit, it becomes a commercial impossibility to import anything from the States today except at a definite loss, so nobody gets anything out of it.

H. H. STEWART.

Finest Trade Paper

Union Technical Agencies
Durban, Natal

Editor:

You ask after our activities in Natal; we are very interested in developing refrigerator sales throughout South Africa, through the appointment of exclusive territorial distributors.

At the present time, in view of negotiations pending we do not wish to be quoted in your journal on our activities, but we would go on record as most emphatically stating that ELECTRIC REFRIGERATION NEWS is the finest trade paper we have ever subscribed to.

We subscribe to over 20 foreign trade journals, mainly American, and consider yours by far the leader over any other. We keep your journals on record, and often refer to previous issues.

A. MERRY.

Enthusiastic

The Utility Management Corp.
120 Wall St., New York City

Editor:

We appreciate the excellent write-up which you gave to our Refrigeration Jubilee in your issue of April 26. You might be interested to know that all of our properties are very enthusiastic about the Jubilee. During the last week of April, large employee meetings were held in Elmira and Binghamton at which there was an attendance of 700 and 500 employees, respectively.

Dr. George Allison was the featured speaker at these meetings. During the past week, Dr. Allison also gave some very fine talks before dealer meetings as well as employee meetings, at Easton, Pa., Reading, Pa., Lebanon, Pa., and Hanover, Pa.

A. E. WARD.

Scrap Book Material

J. J. POCOCK, Inc.
Philadelphia

Editor:

I have been getting the NEWS at the office, but due to the fact there is always a scramble for scrap book material from each issue, I am enclosing my check in the amount of \$3 for which you will please send the NEWS to my home.

GEORGE T. STEVENS, JR.,
Division manager.

Kind Words Dept.

"ELECTRIC REFRIGERATION NEWS certainly is a great paper and I would hate to be without it. Thank you for your fine service."—Richard Campbell, Troy, N. Y.

"I might say that I find the publication, ELECTRIC REFRIGERATION NEWS, interesting and full of excellent ideas."—Geo. R. Copeland, Belmont, Mass.

"We have been very much pleased with your publication in the past, as it not only contains personal news of the industry, but also keeps us well posted on current developments of interest."—R. H. Clouet, Electric Refrigeration Service Co., New Haven, Conn.

COMPANION MERCHANDISE

G. E. BRINGS OUT NEW SMALL OIL FURNACE

NEW YORK CITY—A new, smaller oil furnace, similar and additional to the larger unit announced last year, is being introduced by the air-conditioning department of General Electric Co.

Designed for smaller homes, and having slightly over half the heat output of the larger model, the new furnace incorporates no alterations of fundamental principles but has been reduced in dimensions.

It is rated at a maximum output of 133,000 B.t.u. per hour, equivalent to 555 sq. ft. of steam radiation, or 885 sq. ft. of hot water radiation, and can be used with steam, vapor, or hot water systems. With addition of the G. E. warm air conditioner, it can also be used with air-duct heating systems.

A feature of the new furnace is that the oil rate is independent of the viscosity of the oil. Once the oil rate is set for the particular installation, the user can change the grade of oil (within specified limitations) at will without necessity of making adjustments. Low temperatures, which thicken oil, do not slow down the rate of flow; nor do high temperatures, which thin oil, cause a more rapid flow, G. E. engineers claim. A new viscosity compensating device slows down the flow of thin oil and increases the flow of heavier oil.

The new furnace is circular in shape (the larger one is ob-round), is 60 in. high, and 29 in. in diameter over the jacket.

It has a maximum oil rate of 1½ gallons per hour, and a minimum rate of 0.70 gallon per hour.

MERRIAM WINS EASTERN G. E. RANGE COMPETITION

NEW YORK CITY—A. Wayne Merriam, General Electric distributor in Schenectady, N. Y., won the special General Electric range sales contest recently held for distributors in the Eastern section of the country making 150 per cent of quota.

The contest, which was sponsored by Fred T. Harvey, eastern district representative for General Electric's specialty appliance sales department, resulted in a total of 159 retail deliveries.

Mrs. Dorothy Littlefield of the Merriam organization won a cash prize of \$50 for doing the best range job in the winning distributorship.

Breckenridge, Inc., Springfield, Mass., distributor, won a second prize of \$25. Miss Cena Jones of Gould-Farmer, Inc., Syracuse, N. Y., received an oil painting for making the greatest number of range demonstrations among the home economists.

A \$25 cash prize went to J. C. Yerrick, Merriam salesman, for closing the greatest number of range sales during the contest.

14 COMPLETE STUDY OF WESTINGHOUSE RANGES

MANSFIELD, Ohio—Two classes in the use of Westinghouse electric ranges, conducted here by Ruth McManus, supervisor of range home economics for Westinghouse Electric & Mfg. Co., have just graduated 14 home service representatives from the Ohio Power Division of the American Gas & Electric Co.

Members of the first class included Hazel Reiter, Mansfield; Betty Townsend, Zanesville; Lucille Mercer, Lancaster; Marcella Dickinson, Van Wert; Charlotte Miller, Lima; Lillian R. Ball, Tiffin; Mercedes McCarthy, Newark; and Louise Stewart, Tiffin.

Margaret Wise, Canton; Mildred McCreight, Portsmouth; Olive T. Denman, Coshocton; Myrtle Finnie, East Liverpool; Mary W. Donahue, Steubenville; Esther B. Haight, Coshocton; and Margaret Schneider, Wheeling, W. Va., made up the second class.

TORIDHEET APPOINTS FIVE NEW DEALERS

CLEVELAND—Five new dealers have been appointed in the East and Midwest by the Toridheet division of Cleveland Steel Products Corp. to sell its oil burners.

The new retail outlets are: French Home Equipment Co., Ann Arbor, Mich.; Rockaway Utilities Corp., Rockville Center, L. I., N. Y.; Muller Engineering Co., New York City; Burrows Coal Co., Mystic, Conn.; and Home Equipment Co., Fort Wayne, Ind.

Oil Burner Group Opens Meeting June 12

CHICAGO—with prospects for some interesting sessions on the subject of industry regulation, in line with the provisions of the National Industrial Recovery bill, representatives of the American Oil Burner Association will meet here June 12-16 for their annual convention.

Advance notices dealing with the program for the convention had played down the "association" angle but the National Industrial Recovery bill has apparently spotlighted this phase of the convention activities. Morgan J. Hammers, president of the association, pledged the cooperation of the oil burner industry to President Roosevelt in the following telegram:

"On behalf of the American Oil Burner Association and with keen appreciation of the responsibilities imposed on industry to do its part, I pledge wholehearted cooperation in advancing the constructive provision of the proposed National Industrial Recovery act. The part that the association will play in shaping this industry's practices, including wages and employment, will occupy an important place in deliberations of the association's tenth national oil burner convention."

A special dealer-day program is scheduled for June 14 with the following subjects in line for discussion: "What the Oil Burner Dealer Executive Should Know"; "Selling Boiler Burner Units"; and "A New Dealer's View of the Oil Burner Industry." The latter talk will be given by C. J. Bassler, General Electric air-conditioner distributor for Chicago.

Air conditioning will come up for discussion at the engineering session which is scheduled for June 16.

The following companies and organizations will exhibit at the tenth annual oil burner show which is to be held in conjunction with the convention:

American Oil Burner Association, American Radiator Co., American Society of Heating & Ventilating Engineers, Anchor Post Fence Co., Automatic Burner Corp., Automatic Products Co., Bell & Gossett Co., Bureau of Standards, U. S. Department of Commerce.

Century Electric Co., Century Engineering Corp., Champion Oil Burner Sales Corp., Chase Brass & Copper Co., Chicago Oil Burner Association, Cleveland Steel Products Corp., Cuno Engineering Co., Detroit Lubricator Co., Domestic Engineering, Dongan Electric Mfg. Co., Enterprise Oil Burner Co., Electrol, Inc., Fitzgibbons Boiler Co., Inc., General Ceramics Co.

General Electric Co., Hart Oil Burner Corp., Jefferson Electric Co., Kelvinator Corp., K-W Ignition Corp., Mayflower Oil Burner Corp., McDonnell & Miller, McIlvaine Burner Corp., Mercoil Corp., Micro Corp.

Minneapolis-Honeywell Regulator Co., Monarch Mfg. Works, Inc., Motor Wheel Corp., Murphy-Miles Co., Nu-Way Corp., Oil Heating Institute, Penn Electric Switch Co., Permutit Co., Petroleum Heat & Power Co., Preferred Utilities Mfg. Co., Quaker Mfg. Co., Reif-Rexoll, Inc.

Silent Glow Oil Burner Corp., Sinclair Refining Co., Taco Heaters, Inc., Teesdale Mfg. Co., Timken Silent Automatic Co., Tuthill Pump Co., Underwriters' Laboratories, Viking Pump Co., Wayne Oil Burner Corp., Webster Electric Co., Westinghouse Electric & Mfg. Co., Weil-McLain Co., Wood Hydraulic Hoist & Body Co., York Oil Burner Co., Inc.

Hogan Opens New G. E. Showroom

WHEELING, W. Va.—A crowd of more than 750 people attended the opening of the new retail showroom of W. N. Hogan, Inc., General Electric distributor in Wheeling, W. Va. Approximately 500 prospect cards were obtained during the opening ceremonies.

The new store is modernistic in design, and range and refrigerator displays are so arranged as to afford an unobstructed view of the kitchen, located in the rear of the store.

WATER HEATER SALES BETTER 1932 TOTAL

EAST PITTSBURGH, Pa.—Unit sales of Westinghouse water heater division from Jan. 1, 1933, to May 3, 1933, were greater than the total unit sales for the entire year of 1932, according to an announcement made recently by officials of the water heater division.

FLAVORZONE RANGE SELLS FOR \$149.50

MANSFIELD, Ohio—A new model in the line of Dual-automatic flavor-zone ranges manufactured by the Westinghouse Electric & Mfg. Co. has just been introduced to the field. Designated as model GB-64, the new model lists at \$149.50, with spring-wound timer at \$10 extra and electrical timer at \$15 extra.

The new model is the lowest priced Westinghouse range in the dual-automatic flavor-zone series. It is a tabletop model, but differs from other table-top models in that the back splasher is lower, legs are longer, and the bottom full-length utensil compartment has been eliminated.

With the timer attachment it is possible for a user of the GB-64 range to cook by the Westinghouse dual-automatic method, an exclusive feature with Westinghouse ranges. This method incorporates a quick rise of temperature to the "searing" point of say, 500° F., then a slow drop to 300° F. where the range clicks on to maintain this heat to finish the job.

The range is equipped with two 1,500-watt oven units, two 1,200-watt platform units, one 1,500-watt platform unit, and one 2,000-watt platform unit. Westinghouse "Coxor" hermetically sealed platform units can be obtained at an extra cost. Maximum electrical input is 10,220 watts.

The range is also fitted with two appliance receptacles, one of which may be controlled by the timer, to operate a coffee percolator, toaster, or other such devices.

Model GB-64 is finished in ivory porcelain enamel, trimmed in black. The oven is insulated. The platform top is 34½ in. from the floor. Overall width is 41½ in., depth, 25½ in. Oven is 16 in. wide, 14 in. high, and 18½ in. deep.

3-Week Campaign Sells 1,310 Cleaners

PHILADELPHIA—A three week's promotional campaign devoted to stimulation of sales of household vacuum cleaners, instituted by the Electrical Association of Philadelphia, resulted in a total of 1,310 sales at the end of the activity, April 15.

The campaign, participated in by 19 distributor members of the Philadelphia association and representing 12 standard makes of cleaners, was decided on following a survey which showed a local saturation of approximately 75 per cent on metered homes, but which also disclosed a high percentage of outworn and obsolete units.

Premium Offered Buyers

The distributors, with representatives of the utility (The Philadelphia Electric Co.), joined to compose a committee to formulate plans for the campaign, and after a series of meetings, decided to offer a premium, in the form of an attractive table lamp, complete with shade, base, and mazda lamp, to be given away with each floor model cleaner sold during the campaign.

On the agreement of participants to offer an identical premium on cleaner purchases, the Electrical Association contracted for a large quantity of these lamps on which the association absorbed half of the cost and undertook delivery.

A broad advertising program was embarked on, Philadelphia and suburban newspapers carrying 320 lines of descriptive copy, including a cut of the premium lamp, with description, and listing the names of the 12 different makes of vacuum cleaners to which the offer applied. Supplementing this, a series of radio broadcasts, describing the premium offer, was

made over a local broadcasting station.

Results obtained by the participating distributors were commensurate with the interest and enthusiasm displayed by dealers and salesmen tied into the campaign; three distributors, with direct selling organizations, and handling vacuum cleaners exclusively, realized 62 per cent of the total sales resulting from the activity, while 13 distributors handling vacuum cleaners together with other major appliances, and selling only through dealers, totaled 31 per cent of the business.

Majestic Radio Sales Increase in May

CHICAGO—Majestic radio shipments in May showed a 75 per cent gain over the same month in 1932, and the June production schedule at Griggsby-Grunow's factory here will be 300 per cent above June, 1932, according to LeRoi J. Williams, vice president and general manager.

"More car radios," stated Mr. Williams, "were shipped to Majestic distributors this May than were shipped to them in all of the year 1932, and our June schedule of car radio production is more than four times this amount. Refrigerator shipments for the last three months have consistently increased each month reversing the usual seasonal trend."

WESTINGHOUSE CLEANER SALES IMPROVE

MANSFIELD, Ohio—Tabulated sales of Westinghouse vacuum cleaners for the first four months of this year indicate an 83 per cent increase over the corresponding period of 1932, while washing machine sales have jumped 48 per cent higher during the same time as compared with last year. The statistics are based on unit sales.

A FACT THAT 10 YEARS IN THE REFRIGERATION INDUSTRY HAS TAUGHT US

Constructive VERSUS DESTRUCTIVE Selling

We require our entire sales organization to maintain a policy of constructive selling. Pointing out the weakness of a competing product or service creates the impression of being on the defensive—of trying to cover up something. Poor psychology and destructive to the industry, as well.

UNIVERSAL COOLER CORPORATION

DETROIT, MICHIGAN
BRANTFORD, ONTARIO

MANUFACTURERS OF A COMPLETE LINE OF HOUSEHOLD AND COMMERCIAL REFRIGERATION EQUIPMENT

5,000 ATTEND SHOW AT ST. PETERSBURG

ST. PETERSBURG, Fla.—Displaying new models of refrigerators to more than 5,000 residents of this city, 12 electric refrigeration dealers cooperated in holding their second annual refrigeration show in the Alexander Hotel lobby here May 4 through 6, under the sponsorship of the St. Petersburg Electric Refrigeration Bureau.

Each dealer displayed three refrigerators. Uniform booth cards, naming the types of refrigerators shown and the firm exhibiting them, were furnished all exhibitors. Prices were also uniformly listed at each booth.

Six Advertisements Used

Six advertisements in St. Petersburg newspapers and appropriate radio programs gave publicity. Truck banners were used by the dealers, and signs on the hotel indicated the show's location.

A special publicity feature was an entertainment put on for the dealers and their friends by radio station WSUN in the studio's reception room Tuesday evening, May 2. Bill Hay, Irish tenor, and George Henninger, accompanist, were heard in a program of "Old Time Songs," dedicated to the electric refrigeration dealers.

Exhibitors at Show

Exhibiting dealers were: Webb & Morgan, Inc., showing General Electric refrigerators; Kelvinator Sales & Service, Kelvinator; Copeland Distributing Co., Copeland; Electric Appliance Co., Westinghouse; Gulf Radio Sales, Inc., Majestic; Ace Radio Co., Inc., Leonard and Grunow; Johnson Engineering Co., Norge; Craighead Co., Jewett; Sears, Roebuck & Co., Coldspot; Frank & Murray, Crosley; Todd Hyatt, Frigidaire; Florida Power Corp., Frigidaire and Kelvinator.

An Editor on Wheels

Stories of Interesting PLACES in the Refrigeration Industry

By GEORGE F. TAUBENECK

Trenton, N. J.

"Incorporated under the laws of the state of New Jersey." If all the corporations which use that line in their officials documents really belonged to the state, and poured their incomes into it, New Jersey would be wealthy indeed. But they don't.

The rest of the country, like Philadelphia and New York, squeezes the juice from New Jersey, and scatters the peel and pulp over the landscape.

Trenton, New Jersey's capital, is to Philadelphia what Newark is to New York. The Quaker City is but 30 miles distant from Trenton; so it has become a commuter's home, just like its larger sister, Newark.

Its slogan, "Trenton Makes—the World Takes," is probably more significant than Trentonians may think. Trenton is very largely a city of People Who Work for Somebody Else. Certain it is that there is very little evidence of the prodigious energies expended by Trenton citizens having enriched their city. Profits, reserves, have been extracted and impounded—or used—elsewhere.

Population is about 125,000.

Chief industry: pottery.

Other strong manufacturing developments in Trenton include automobile tires and rubber goods, structural steel, wire, bedding and mattresses, cigars, candy, commercial refrigerators, linoleum, brooms, machinery, stampings and castings, clothing, building parts and materials, hardware, ink, oilcloth, overalls, tools, sporting equipment, and aviation supplies.

It is a highly concentrated manufacturing center, with all the dinginess

and grubbiness—also all the vigor and action—that the term implies.

In spite of its industrialization, though, and in spite of its effacement and depersonalization at the hands of Philadelphia and New York, Trenton has managed to preserve some of the meat, if not the flavor, of its historical past.

Trenton was founded in the early 1680's, a decade or so after Robert Treat conducted his party of Puritans to what became Newark. Following a series of stirring colonial episodes Trenton served as one of the seats for the Continental Congress, and was even considered as a possible site for the national capital. Then it was chosen capital of New Jersey (1790).

Adjoining the grounds of the capitol building is Mahlon Stacy Park, where still stand the Hessian barracks in which the British regulars and Hessian mercenaries were quartered during much of the Revolution.

And of course you've seen that famous painting of Washington Crossing the Delaware. Well, this famous crossing, in which the Father of our Country is purported to have stood up in the front of a rowboat during the navigation of a rough river laden with ice blocks, took place just eight miles west of Trenton.

Occurred there also the important Revolutionary Battle of Trenton, now marked with a monument, and the Second Battle of Trenton, after which Cornwallis realized definitely that he was licked.

The present post office (at State and Montgomery streets) is on the site of the surrender of the British army to General Washington, Dec. 26, 1776. Moving down State St. further to Warren you'll find the site of the meeting place of the Continental Congress in 1776. Also worth seeing is the handsome City Hall on State and Canal streets.

Old churches, cathedrals, meeting houses, and landmarks of various sorts are spotted by tablets and pointed out by residents. Nearby, too, are the celebrated old towns of Bordentown, Fallsington, Burlington (home of James Fenimore Cooper), Crosswicks, Lawrenceville (of prep school fame), and Princeton—which is just 10 miles from Trenton.

Long before the Revolution, Princeton was dedicated to learning of the post-academic variety. Campus, centering around old Nassau building (first building of the university), is one of the most entrancing in America.

The town itself is the one spot in New Jersey where the atmosphere and flavor and substance of the gallant colonial and early republican days of America are preserved. It's another world, altogether. And a pleasant, restful, meditative, sobering little world it is. By all means visit it.

Newark, N. J.

State of the bourgeoisie, home of commuters from New York City and Philadelphia, location of manufacturing activities which have spilled over from Manhattan. New Jersey comes as near hitting an average—or achieving a standard, however doubtful that standard may be—as any state in the Union.

Other states present within their borders great contrasts: between metropolis and the countryside, between senile small towns and vigorous young cities, between poverty and extravagant affluence, between poetry and mills, between lorgnettes and toothpicks.

In New Jersey the cities are pretty much alike and so are the citizens. Moreover, it can't be said to have a countryside or rural areas; there are no dirt farmers. Truck farmers, yes. And tourist caterers. But no genuine people of the soil. The whole state has been urbanized (with the exception of a few shabby retreats of the indigenous "poor whites").

Thus we find that remarks which apply to Newark hold also for Trenton, for Passaic, and for Paterson. They are all of a stamp.

Salesmen sometimes aver that New Jersey is one of the richest markets for specialty products in the United States. And that's true—chiefly, we suppose, because the "middle class" furnishes most of the prospects for articles merchandised through salesmen. New Jersey is preeminently the State of the Middle Class.

The wash of New York and Philadelphia has inundated the old citizenry, the traditions, and the culture of colonial days in New Jersey. Other cities along the Atlantic seaboard retain vestiges of their past, and preserve relics of more leisurely and humanistic days. But not Newark, or its neighbors. They live in the present.

Also they live in the future. Especially in the pre-depression days, Newark was a city of climbers. Its people wanted to get ahead, to go places, to boost themselves into upper crust levels, to move. And even today a great portion of its citizenry look upon Newark as a way-station, as a sort of purgatory where they may

prepare themselves for the glories to come.

As could be imagined of a city so predominantly bourgeois, Newark is lack-luster and matter-of-fact. It wears its business clothes. No Sunday-go-to-meetin' suits. And should it want to put on soup-and-fish, it crosses the river into New York.

Newark is a place where people live and save. They work or spend in New York, or both. True, there are hundreds of little local circles, and there are thousands upon thousands of workers in Newark industries; but even if these people aren't actually commuters, their eyes are on New York and their thinking is tuned to the same wavelength.

With a population of half a million, Newark is the largest city in New Jersey, and the eighth in the United States. Within its 23 square miles are concentrated more industrial production facilities than in any comparable area in the world—or so Newarkers claim. Thirteen miles of waterfront and a deep water harbor help make the city an important port and terminal.

Patent leather was invented in Newark. So were flexible films for photography, roller bearings, and the malleable iron manufacturing process. Electrical equipment, paints and varnishes, leather, chemicals, jewelry, bakery goods, printing and publishing, clothing, metal products, furniture, buttons, stone products, and meat packing comprise some of the city's leading industries.

Avgiation is becoming more and more important to Newark. Its municipal air port is the busiest in the world, as well as being a port of entry for customs collection and an airmail base. Distinctly air-minded, the citizens are fostering various movements to promote the growth of air transportation, for and upon which, no doubt, Arthur Brisbane will bestow some blessings.

Newark is perhaps best known around the nation as an insurance center. No less than 19 different insurance companies have their home offices here. Many of them have imposing buildings; and they help make "Four Corners" (intersection of Broad and Market streets) one of the most businesslike and impressively important commercial districts in the country.

Newark is New York with Park Ave. and the Bowery amputated—a middle class, fair-to-middling workaday community of ambitious people. Not beautiful, not lively; but serviceable and practical.

OKLAHOMA SALESMAN GETS 10 SALES IN 20 DAYS

VINITA, Okla.—Ten refrigerator sales, nine of which were for deluxe models, was the record hung up during the last 20 days of April in this town of 5,000 inhabitants by Buck Herrin, Majestic dealer.

Mr. Herrin has had no previous experience in specialty merchandising, stated C. C. De Wees, Grigsby-Gruenow's assistant advertising manager.

COPELAND APPOINTS NEW DISTRIBUTORS

MT. CLEMENS, Mich.—Recently appointed distributors of Copeland electric refrigerators are Seidel Bros., Milwaukee; The Helburn Co., Montgomery, Ala.; Western Furniture Co., Salt Lake City; Denver Steel & Iron Works, Denver; Homer King, Inc., Tacoma, Wash.; Refrigeration Distributors, Inc., Los Angeles; and Dowdy Electric Co., Roanoke, Va.

FRIGIDAIRE EXPORT MANAGER RETURNS

DAYTON—Reporting on business conditions in European countries and North Africa, George D. Riedel, president and managing director of Frigidaire, Ltd., export representative of Frigidaire Corp., with offices in New York City, paid a visit to the Frigidaire factory here recently.

The export manager recently spent three months abroad studying the market for Frigidaire refrigerating and air-conditioning equipment.

"Conditions are looking up in virtually all European countries," said Mr. Riedel in an interview printed in the *Dayton Herald*.

"Stabilization of currencies," he added later, "will help American business because the leveling of exchange will start orders flowing. Many Frigidaire distributors now must obtain import permits before they can order Frigidaire products. Then they must obtain exchange permits in order to make payments in American dollars. This situation has made the export business one of banking rather than merchandising."

MICHIGAN GROUP AGAINST UTILITY MERCHANDISING

MUSKEGON, Mich.—To secure legislation in the state of Michigan prohibiting sale of appliances by utility companies in competition with independent dealers, petitions are being circulated here and in Grand Rapids under the sponsorship of an organization known as "The Association for Relief from Unfair Practices of Public Utility Corporations of Michigan."

John W. Schuttema, Jr., of Schuttema Electric Co. in this city, and William Briggs and Dewey Purchase of Grand Rapids are founders of the association.

Stating that present practices of the utilities in their appliance departments are endangering the business of manufacturers, merchants, and contractors in these cities, the association asks those signing the petitions to include a statement as to their approximate annual taxes, capital invested, and labor employed.

LEONARD MAKES CLOSE CHECK ON FIELD STOCKS

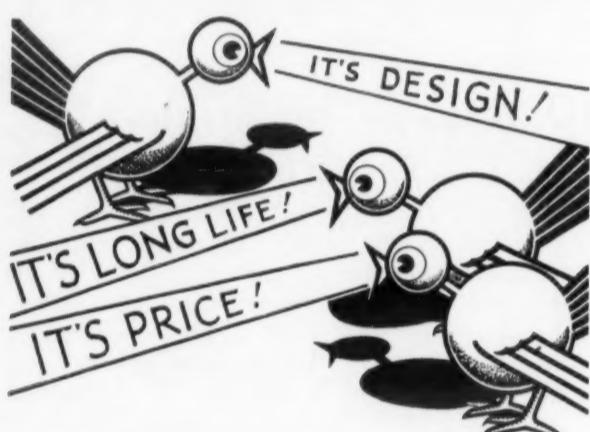
DETROIT—Believing a closer check on field stocks to be necessitated by the lowest factory inventories in recent years, Leonard Refrigerator Co. here has asked distributors to furnish an inventory of their models on hand every 10 days for at least the next 60 days.

H. K. Lyons, director of distribution for Leonard, in sending the message to the field, said: "We have been operating our factories at a maximum production for the past month and are continuing this schedule at the present time."

EVANSVILLE STORE SELLS WESTINGHOUSE UNITS

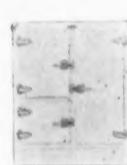
EVANSVILLE, Ind.—To sell Westinghouse appliances exclusively, the new store of Evansville Electric Service Co. has been opened here on Main St.

Charles Legerman is owner and manager of the store.



The BEST STEEL SHEETS are necessary --

Design and price will sell a cabinet but only outstanding quality will make it render satisfactory service to the user. Superior Galvannealed steel sheets have demonstrated over a period of years that they combine all of the qualities so essential to high grade cabinet production.

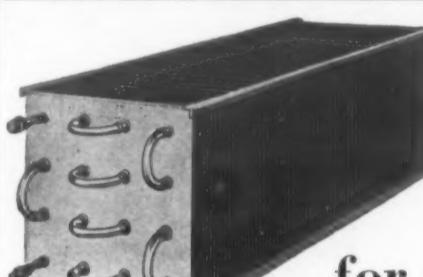


- Superior Galvannealed is a special analysis steel sheet, with a hot dip, heat treated zinc coating bonded to the base metal, rendering it rust-resisting to an unusual degree.
- The coating will not peel under the most difficult forming operations.
- The etched surface is ideal for receiving any finish—paint, lacquer or enamel—and it retains them under severe conditions of use.

*Superior
Galvannealed
PATENTED PROCESS*

The Superior Sheet Steel Co.
Canton, Ohio

Division of Continental Steel Corporation



Now Over 40,000 Larkin Coils in Daily Use

A Special Larkin Coil for a Special Need

CONVERTING old style Side Ice Coolers to Mechanical Refrigeration is effectively accomplished with LARKIN COIL "S.I." which comes in three lengths for Coolers 6x5x9 ft. to 7x6x9 ft.

"S.I." is but one of 124 Standard Models and Sizes in LARKIN original 100% Vertical Surface Aluminum Plate COILS stocked for quick service at Atlanta, Brooklyn and Chicago. Special size COILS from Atlanta only.

WAREHOUSES

Brooklyn - Chicago

STANDARD FACTORY EQUIPMENT WITH

COPELAND : SERVEL : WILLIAMS ICE-O-MATIC : MAYFLOWER : UNIVERSAL : KULAIR : ZEROZONE : M & E : MODERN : STARR : MOHAWK : APEX : DICELER : LIBERTY : H. M. Robins Co., Export and Others.

LARKIN Refrigerating Corporation

Originator and Manufacturers

ATLANTA, GA., U.S.A.

U.S. PATENT NO. 1,776,238.

LARKIN COILS



FRIGIDAIRE STRESSES FOOD PRESERVATION

DAYTON—Frigidaire Corp., for the first time in its history, is linking its household and commercial refrigeration products in a national merchandising program which opened this month.

The program will spotlight the use of Frigidaire commercial refrigeration by food retailers and food serving establishments as a means of impressing the name "Frigidaire" on the patrons.

An advertising campaign in national magazines, which broke May 13, takes as its theme—"Insure proper preservation of the foods you serve by buying from the 200,000 modern merchants who use Frigidaire." A newspaper and trade journal campaign will follow.

Employ Display Shields

A colorful coat of arms carrying the Frigidaire name, the General Motors' "G-M," and the words "Protected Foods" is a basic feature of the campaign. Users of Frigidaire commercial refrigeration will display such shields in their places of business.

"Our field investigations show that women will go to properly equipped stores," declares H. W. Newell, vice president in charge of sales, "and we believe that the name Frigidaire has been so extensively advertised that the 'Protected Foods' shield will assist greatly in drawing them to stores that display it."

The program is based on experience, Mr. Newell said. Last year the plan was tried out in several representative cities to determine if modernization and the Frigidaire name were of assistance in bringing sales increases. It was proved, Mr. Newell declares, that a store which installed commercial refrigeration not only drew enough customers to pay for the equipment within a normal length of time, but also reduced costs in such a manner as to add to the annual profit. The business building plan, accord-

ing to Mr. Newell, encompasses the cooperation of the Frigidaire salesman who makes the sale, his supervisor, and, where necessary, the commercial sales manager for that locality. It is designed to accomplish one purpose: the permanent increase in the number of customers the store serves.

When a merchant installs Frigidaire equipment and generally modernizes his place of business, the Frigidaire salesman who sold him will stage a "Protected Foods" celebration in the store.

Dodgers will be distributed in the trade area of the store, personal and telephone calls will be made on housewives calling their attention to the modernization of the store. Frigidaire users in the neighborhood will be informed of the new Frigidaire-equipped store. Complete window displays and store displays will be provided by Frigidaire.

Explain Equipment

On the day of the celebration, Frigidaire men will be on hand to explain the operation of the new equipment, and a Frigidaire household electric refrigerator will be displayed within the store.

With few exceptions, declares Vice President Newell, every test food celebration held last year in the cities in which the business building plan was tried, brought record turnouts from morning to night, put a number of permanent customers on the merchant's list, and brought a number of household sales, and many more prospects.

The newspaper copy will follow the same theme as the national magazine copy, and like the magazine copy, will deal exclusively with commercial refrigeration. All magazine and newspaper copy on household models will carry the shield in the lower corner with a terse explanation of its significance.

In trade journals reaching restaurant, hotel, grocery, and meat market men, the copy has a different appeal.

"Will she buy from you or your competitor?" one piece of copy asks.

"Are they passing your restaurant to patronize your competitor?" an-

other one asks.

"What's the answer to shrinking sales?" is the question of another.

In preparation for the launching of the "Protected Foods" campaign, Frigidaire commercial men have been busy affixing the shields on doors and windows of establishments owned by Frigidaire users of commercial refrigeration.

NEW DEALERS APPOINTED IN SAN DIEGO TERRITORY

SAN DIEGO, Calif.—Several recent dealer appointments are reported from this territory by J. Clark Chamberlain, secretary-manager of the San Diego County Electric Refrigeration Bureau.

La Motte & Callaway, Westinghouse distributor, has selected Escondido Mutual Water Co. to handle its line in this area. Strand Radio Co., Ocean Beach, will sell General Electric refrigerators, according to George T. Eauder, distributor here.

San Diego Standard Electric Corp. has made arrangements with Hammond Furniture Co., Globe Outfitting Co., Superior Furniture Co., Miller Bros. Service Station, and Weinstock's, to take on the Gibson line.

New Leonard dealers, appointed by Electric Supplies Distributing Co., distributor, are Burnett Furniture Co. and W. D. Hall Co. of El Cajon.

Thor Pacific Co., distributor for Majestic, has added Silver Tower Service Station to its list of dealers, while Thomas Furniture Co. is to handle Frigidaires through H. L. Benbough, dealer here.

KLICKA OPENS BRANCH IN SAN DIEGO

SAN DIEGO, Calif.—Klicka Lumber Co., Crosley dealer in this city, is opening a store in the downtown district, according to George Klicka.

Headquarters of the refrigeration and appliance division, under the direction of Ralph Favorite, will be in the new store.

FINANCIAL REPORTS

NEW YORK CITY—Scattered through a list of 1931 and 1932 profits and losses of 322 companies, as recorded in a recent issue of *Printers' Ink Weekly*, are statistics on many organizations connected with the electric refrigeration industry.

Out of 20 such companies, seven reported profits, eight reported losses in both years, and five climbed down from a profit in 1931 to a loss in 1932.

Williams Oil-O-Matic Heating Corp. and Eureka Vacuum Cleaner Co. were the two companies in the 20 which did better business in 1932 than in 1931. The Williams Co. reported profits both times, and advanced its profit of \$15,651 in 1931 to \$19,609 in 1932.

Eureka Vacuum Cleaner Co. turned 1931's deficit of \$1,163,096 into a profit last year of \$48,110.

General Electric Co. chalked up a profit of \$14,404,110 for last year, less than 1931's figure of \$40,956,996. General Motors showed a greater decrease, although it too stayed on the black side of the ledger, with \$164,979 in 1932 and \$96,877,107 for 1931. Figures on the refrigeration divisions of these corporations were not given.

A profit of \$102,701 was listed for Kelvinator Corp. during the past year, dropping off from the \$1,761,707 profit in 1931. Minneapolis-Honeywell Regulator Co. showed a profit of \$190,323 in 1932, compared with \$680,524 in the previous year. Parker Rust-Proof decreased from its 1931 profit of \$449,070 to one of \$264,738 in 1932.

Losses were recorded both years for Airway Electric Appliance Co. (1931—\$316,376; 1932—\$397,935); Altorfer Brothers Co. (1931—\$236,103; 1932—\$171,710); American Rolling Mill Co. (1931—\$3,098,445; 1932—\$2,029,602); Arcturus Radio Tube Co. (1931—\$266,103; 1932—\$464,603); Armstrong Cork Co. (1931—\$3,823,431; 1932—\$2,259,375); Stewart-Warner Corp. (1931—\$1,830,

171; 1932—\$2,445,197); and Westinghouse Electric & Mfg. Co. (1931—\$3,655,660; 1932—\$8,903,540).

Grigsby-Grunow Co. reported a loss in 1932 of \$2,775,569, no figure being given for 1931.

Companies which dropped from a profit to a deficit were American Radiator & Standard Sanitary Corp. (1931, profit, \$200,646; 1932, loss, \$5,990,986); Bohn Aluminum & Brass Co. (1931, profit, \$295,333; 1932, loss, \$720,568); Mullins Mfg. Corp. (1931, profit, \$100,094; 1932, loss, \$696,108); Radio Corp. of America (1931, profit, \$768,904; 1932, loss, \$1,133,586); and Servel, Inc. (1931, profit, \$1,067,397; 1932, loss, \$777,443).

AUSTRALIAN DISTRIBUTOR VISITS FRIGIDAIRE PLANT

DAYTON—G. S. Warburton, managing director of Warburton Frankl, Ltd., Sydney and Melbourne, Australia, distributor for Frigidaire, visited the factory last week to discuss selling plans.

Mr. Warburton traveled 21 days on the new Matson Express liner, *Monterey*, to view the new products. From Dayton he went to New York City and from there to London. He planned to be back in Sydney, his home, at the end of July, going by the way of the Suez.

This was Mr. Warburton's first visit in four years to America and his sixth visit. He has been a Frigidaire distributor and Delco-Light distributor for 17 years and has a territory in Australia 2,000 miles long and 800 miles wide.

SUTHERLAND JOINS SPARTON DISTRIBUTORSHIP

DETROIT—Jabez G. Sutherland, formerly field representative for Cope-land, Westinghouse, and other refrigeration manufacturers, has joined the sales organization of the Wilks Distributing Co., Michigan distributor for Sparton refrigerators.

SEALED LUBRICATION

an exclusive feature on

DELCO MOTORS

For manufacturers who are interested in giving their customers value plus—for those who are concerned with the performance of their products long after the warranty period has expired—these super-service Delco motors are "made to order." Due to the exclusive, patented oil reservoir and non-spillable end head, with special arrangement of the wick and oil control, over-oiling or leakage on the windings is prevented. Delco motors with SEALED LUBRICATION positively retain oil during shipment, installation and operation; they are the only permanently satisfactory solution to the problem of correct lubrication. A Delco representative will be glad to demonstrate how easily SEALED LUBRICATION can be engineered into your product.

DELCO PRODUCTS CORPORATION
DAYTON, OHIO

BY JOHN T. SCHAEFER --

Selling Season Starts In Air Conditioning

Like the selling season for household refrigeration which got off to a slow start this spring and then boomed to new high levels for some companies, air-conditioning installations were few and far between a few weeks ago, but are now being reported in encouraging numbers.

When editors of the News prepared the "Air-Conditioning Issue" of April 12 there were very few new installations to describe, although manufacturers had brought out new lines of equipment and were ready to produce for the demand.

Not Much Doing A Few Weeks Ago

In spite of the fact that Detroit is quite air-conditioning conscious (largely through educational work of the Detroit Edison Co.), not a single new installation of air conditioning with mechanical refrigeration was discovered until May. Detroit isn't typical of the whole country, of course, due to the ultra-severity of the banking fiasco which was visited upon the motor city.

Last week all the active sources of news on Detroit air conditioning were again combed, and the over-all picture was entirely different. A number of interesting new installations were found, several more are being made this week and next, and about-to-buy prospects were plentiful.

Applications of air conditioning to

several distinct types of businesses were found—a restaurant, a night club, a hotel coffee shop, a drug store, and a theater.

Companies reporting installations were Frigidaire, Carrier, Universal Cooler, and Westinghouse. Westinghouse air-conditioning equipment incidentally, is not being handled by the supply company, but by H. Kelly & Co., heating and ventilating contractor representing the manufacturing company in Detroit. Its initial installation in this area will be that in the Golden Pheasant restaurant (reported on page 15).

Theater Conditioned By Universal Cooler

Demonstrative of a small machine manufacturer's equipment for theater cooling is Universal Cooler's 30 tons of refrigeration in Detroit's new Trans-Lux theater which opened last Wednesday. Three of Universal's new 10-ton machines have been installed to cool the 344-seat auditorium (see description on page 16).

With Bill Higham, Universal's air-conditioning engineer, Staff Writer Elston Herron and I went over to see the installation. It was interesting not only for the refrigeration, but because of the novel type of motion picture projection which it introduces to Detroit.

Instead of being located high above a balcony, as in most theaters, the projector operates from 12 ft. behind the screen—which is a transparent silk treated with gelatin. The theater is about half-lighted (you could recog-

nize a person across the room), and images on the screen are softer than in the conventional movie house.

The show lasts about an hour, running continuously from 11 in the morning until midnight, and consists only of news reels, comedies, short features, etc. Admission is 15 cents before 8 p.m., 25 cents after. Seats are spaced wide apart to permit patrons to move about easily, without disturbing others.

The air-conditioning system was operating smoothly while we were there. In fact, William Joyce, manager of the theater, came down to the basement to brag about it.

Two other visitors dropped in to see the installation that morning: Arch Black, national service manager of Liquid Cooler Corp., and Harry Hayes, now doing research work for Liquid Cooler. Mr. Hayes is well known to the industry for his part in the Frigidaire-Absopure patent suit, having taken an important part in the defense. Since then he has carried on special research programs for Norge and American Blower.

Century of Progress

To see what refrigeration manufacturers are contributing to A Century of Progress, your reporter went over to Chicago a few days ago for the opening of the all-summer event. As reported in last week's issue of the News, refrigeration is very much in evidence. Air conditioning, too, is demonstrated in several impressive exhibits.

Anyone debating a trip to Chicago this summer should go by all means. For the 50-cent entrance fee you can see practically all of the really fascinating engineering exhibits.

In the large circular Electrical building, for instance, are demonstrated the miracles of modern invention that have changed our modes of living, created new industries, and changed old industries. Here are refrigeration and air-conditioning exhibits of General Electric, Westinghouse, Kelvinator, Norge, Stewart-Warner. The adjoining Radio and Communications building contains action displays of radio and telephone apparatus.

Steam-Ejector System Demonstrated

Refrigeration by steam is a phenomenon that mystifies many. Even after reading a good technical explanation, one marvels at the process.

American Blower's exhibit at the fair (in the American Radiator group) includes an air-conditioning installation using the new "Decalibrator" steam-ejector system. Engineer Wagner was on the premises, started up the equipment when the writer dropped in, and within an hour produced 32° water for circulation through the Sirocco air-conditioning plant.

Toward the other end of the fair grounds is the huge General Motors building housing a complete Chevrolet assembly line producing some 50 cars a day, which were being despatched that week to the Chevrolet distributor in Chicago.

• • •

Rubber Ice Cube Trays

An interesting adjunct to the extensive Frigidaire exhibit is Inland Mfg. Co.'s demonstration of freezing and removal of ice cubes with Flexotrays, Flexogrids, Duflex, and Quickube trays.

The demonstrator was a vertical glass case enclosing refrigerated shelves on which rubber ice cube trays rested. In the bottom of the cabinet is a Frigidaire compressor which provides refrigeration. Every so often one of the two pretty girl attendants takes out a tray and shows how to use it.

A clever illusion of the Inland exhibit is a frosted glass trick. The girl drops an ice cube into a metal drinking shell, fills it with water, and the shell promptly becomes frosted on the outside. Then presto, the frost disappears and the ice cube melts. Explanation is that refrigerant is expanded into walls of the shell (it's fastened to the table) to cause frost, then it stops automatically and a small electric heating element operates to heat the water and melt the ice.

W. S. Whittaker, president, and H. C. Berkeley, general manager of the Inland organization, had come over from Dayton for opening of the exhibit. Both are pleased with the progress they are making with rubber trays.

Mr. Berkeley estimates that two million of Inland's rubber trays are now in use. A production of 186,000 was expected in May. Over 200,000 could have been sold in May if manufacturing rates had permitted, he says.

The new Flexo Grid announced a month ago (ELECTRIC REFRIGERATION News, May 10) has received quick acceptance, and is being supplied as standard equipment by General Electric, Frigidaire, and Westinghouse.

• • •

Dr. Jordan of Grunow And Carrene Gas

With a few hours to spare in Chicago I went out to Grunow Corp., newest factor in the refrigeration field there. Saw there Dr. J. D. Jordan,

director of the laboratory, M. W. Kenney, chief engineer, and F. M. Edwards, service manager.

Dr. Jordan was indignant about uncomplimentary comparisons which competitive manufacturers have made about Carrene refrigerant in their bulletins to salesmen. Pure Carrene does not decompose into obnoxious gases in the presence of a flame, he insists.

Laboratory tests were made by Peoples Gas Light Co., local utility, to determine its behavior with a flame, he states. The gas was run through a red-hot metal tube, and also sprayed right into a flame, with no evidences of phosgene, Dr. Jordan claims.

The commercial grade of methylene dichloride (used for cleaning and other purposes) may have impurities such as chloroform, ethyl chloride, and hydrochloric acid which might decompose, but Carrene refrigerant is a refined material with none of these compounds, he avers.

The Grunow plant was turning out 450 machines a day. These, you know, are shipped to Detroit where the Grunow division of Briggs Mfg. Co. installs them in cabinets.

In the same general neighborhood of Chicago is Reliance Refrigerating Machine Co., makers of ammonia machines, commercial coils, and complete commercial systems. W. L. Huening, treasurer of the company, says they will shortly extend their line to include small methyl chloride machines.

Back to Detroit for the regular Monday business of helping ELECTRIC REFRIGERATION News go to press, and a few days in the office. A number of out-of-town visitors came in, including the following:

Callers

Roger Birdsall, vice president in charge of sales for the Perfex Corp., Milwaukee. This company has been building air-cooled condensers for Lipman and Vilter commercial machines, an activity which leads the management to seek methods of increasing that new and promising phase of its business.

Ralph L. Benson, refrigerating engineer formerly with the East Springfield (Mass.) plant of Westinghouse Electric & Mfg. Co., stopped en route to his home in Toledo, Iowa.

L. P. Cox, field manager of the Holfast Rubber Co., Atlanta, Ga., maker of rubber products, called to make inquiries about the market for compressor belts. Wonders if the advent of direct-drive machines is reducing the number of belts required by the refrigeration industry.

Lawrence De Golyer, director of sales for General Refrigeration Sales Co., Beloit, Wis. Interested in extending distribution of Lipman commercial machines through dealers whose factory does not produce a commercial line.

P. Brevard called for information on the potential market for refrigerator accessories. Wrote in later to say that he has joined the Purodor Mfg. Corp., Madison, Wis., as general sales manager. Presumably this is a manufacturer of an odor absorber.

L. J. King, Detroit sales engineer of Kold-Hold Mfg. Co. Mr. King reported several applications of Kold-Hold systems to refrigerated trucks in Detroit, including one truck which is insulated with Alfol aluminum foil.

BRISTOL INTRODUCES 2 NEW CONTROLLERS

WATERBURY, Conn.—Bristol Co. has just announced two new time-temperature and time-pressure controllers to regulate a temperature (or pressure) at some fixed rate, and then either hold it or decrease it at some other rate.

The new instruments are designed to operate on any range of temperature from -40° to 1,000° F., or pressure from 10 to 2,000 lbs.

Model 8040 MT controller is the large cam type, the cam here consisting of a graduated chart on sheet aluminum, that may be cut by the user to give any desired control characteristics. The cam is driven by either a Bristol Telechron electric clock or by a high grade spring clock. Air supply and control gauges are mounted self-contained, and the whole is enclosed in a moisture-proof aluminum case.

Model 7240 MT is similar to the other model, except that it is equipped with an indicating pointer which shows the instantaneous pressure or temperature at all times. The cam is of aluminum and is graduated so that the user can cut to any desired cycle.

Use of the free vane principle, introduced by Bristol last year, allows the instrument to control without restricting the indicating pointer. The cam is automatically driven and can be readily changed, its designers state.

REFRIGERATION IS BUSIEST WESTINGHOUSE DIVISION

EAST SPRINGFIELD, Mass.—Whereas all departments of the Westinghouse Electric & Mfg. Co. factory here are operating at an overall capacity of 65 per cent, the sections given over to the manufacture of electric refrigerators are going ahead at 100 per cent of capacity, according to Chairman of the Board A. W. Robertson, who, with other company officials, is making a tour of Westinghouse plants.

Twenty-five hundred employees, all working full time, are employed in the East Springfield factory.

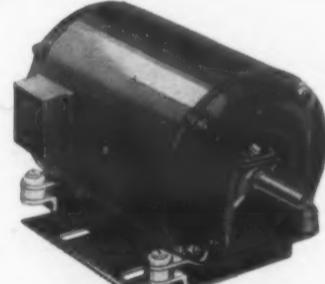
Accompanying Mr. Robertson are President F. A. Merrick, Vice President in Charge of Sales N. G. Symonds, and General Works Manager C. H. Champian.

WESTERN G. E. SALESMEN SHOWN FACTORY MOVIE

SAN DIEGO, Calif.—Bringing the factory closer to Western sales organizations, George Rook, Pacific Coast manager for General Electric Co., recently showed talking pictures of a trip through the G. E. refrigeration plant to dealers and salesmen of George T. Bauder, Inc., distributor here.

Another moving picture carried a complete review of new products, including the all-electric kitchen.

8 big features



A new member
of the famous
"RED BAND"
motor family

Of the Built-In Capacitor Motor

1 Compact and neat in appearance. Capacitor built inside motor frame, the newest motor development.

2 Simplicity of parts. Satisfactory, economical and long-time service with a minimum of attention.

3 Quiet operation. A big reason why the new Howell motor is ideal for home appliances.

4 High starting torque. Smooth, quiet starting under any load prescribed by Howell engineers.

5 High efficiency and power factor and a liberal overload capacity. Real operating economy.

6 No commutator, no wire-wound rotor—nothing to get out of adjustment on this new motor.

7 Splash proof. A protected frame guards against entrance of dirt and splashing liquids.

8 No radio interference. Another reason why the Howell is ideal for home appliances.

Write for additional data

Howell Sales and Service in over 50 Principal Cities

Howell Electric Motors Co.

Howell

Michigan

Pioneer Builders of Capacitor Start Motors

—get this order to Wolverine "Rush" before that copper market goes still higher—we ought to have a stock right here anyway—be sure to specify "Dehydrated and Sealed"—then it will be 100% dry whenever we need it." 100% Dehydrated and Sealed—or Open End—Plain or Tin Plated—in 25, 50 and 100 ft. coils "Rush" from stock or longer to order.

WOLVERINE TUBE COMPANY
1491 Central Avenue, Detroit, Michigan

Sales Offices in 29 Cities

Export Dept.—H. M. Robins Co., Madison Bldg., Detroit

WOLVERINE
Seamless Copper Tubing
For Refrigeration

With a few hours to spare in Chicago I went out to Grunow Corp., newest factor in the refrigeration field there. Saw there Dr. J. D. Jordan,

AIR CONDITIONING

FRIGIDAIRE SYSTEM COOLS COFFEE SHOP

DETROIT.—Now being installed in the coffee shop of Hotel Fort Shelby here is a 10-ton Frigidaire air-conditioning system sold by the Detroit factory branch of Frigidaire Corp.

This system, which will cool and dehumidify the air in the room, is composed of three Frigidaire SU-3 store-type cooling units installed within a single cabinet 35 ft. long which is attached to the ceiling above the shop's steam tables at one end of the room, according to E. E. McEwan, service and air-conditioning manager of the Frigidaire branch.

These three cooling units will be powered by one of Frigidaire Corp.'s new 10-hp. air-conditioning compressors introduced this spring. The cabinet housing the units will be heavily insulated at the bottom to protect the cooling system from heat arising from the steam tables, says Mr. McEwan.

Each of the cooling units has two outlets through which conditioned air is discharged into the room at angles determined by adjustment of the outlet nozzles. Warm air will be taken from the room through a grille at either end of the large cabinet, and through two others which are located in spaces between the cooling units in the housing.

Each of the three units, says the air-conditioning manager, has a capacity of approximately 36,000 B.t.u.'s per hour, at average air-conditioning back pressures. The refrigerant (F-12) is controlled by a thermostatic expansion valve. Each unit has two fans of the multi-blade centrifugal type, driven by a 1/5-hp. motor, forcing air through the diffuser nozzles at the rate of 1,500 cu. ft. per minute.

NEW AIR-CONDITIONING FIRM

NEW YORK CITY.—Newly organized to manufacture air-conditioning equipment, special generators, and parts, Alkure Corp. of America, Inc., has been established here by Isidore Strauss of Brighton Beach, L. I., and John J. Mercer, New York City.

SINCE THIS INDUSTRY WAS IN THE BLUEPRINT STAGE-MILLER HAS TACKLED AND SOLVED ALL ITS RUBBER PROBLEMS



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MILLER RUBBER PRODUCTS CO., INC.
Akron, Ohio



Universal Installs Air Conditioning In Theatre

DETROIT.—Air conditioned by 30 tons of Universal Cooler refrigeration, Detroit's new Trans-Lux theater, first of its kind this side of New York City, was opened here last week.

The new theater employs a novel type of projection which makes it possible to project the film in a room with a ceiling as low as 11 ft. The projector is operated from behind the screen.

Like the Trans-Lux theater on Broadway, New York City, the new Detroit picture house is showing only news reels, shorts, and comedies, the whole show lasting about an hour. Its seating capacity is 344. Due to the special features of the film-developing apparatus, the Trans-Lux system is supposed to show news reels two or three days before the conventional motion pictures can get them ready.

The cooling equipment includes three of Universal Cooler's new 10-ton F-12 compressors (announced in ELECTRIC REFRIGERATION News on April 19). These are installed in the basement, along with the air-conditioning duct work, blower, filter, coils, etc.

The air-distributing system was designed by Eric Hyde, consulting engineer for H. Kelly & Co., local heating and ventilating contractors, and installed by the Kelly organization under the direction of Charles E. Tolton, construction engineer for the company.

Temperature Follows ASHVE Curve

Detroit Lubricator Co.'s new differential thermostat is used with the refrigerating system to maintain a predetermined temperature difference between indoor and outdoor temperatures. Thus, at 74° F. outside no cooling is done, while at higher outdoor temperatures the refrigerating system operates to cool the theater according to the A.S.H.V.E. curve until at 100° F. outdoor, the inside temperature will be about 82° F.

This is done, according to Dan Wile, research engineer for the Detroit Lubricator Co., by installing the thermostat on the back wall of the theater auditorium, with one thermostatic element right in the instrument, and another in the fresh air intake duct.

The refrigerating system is arranged so that each of the 10-ton machines serves a standard 18x45-in. direct-expansion Trane coil 12 in. deep. There are 18 lbs. of F-12 refrigerant in each separate system, William Higham, Universal Cooler engineer, explains. Coils are of 1/2-in. copper tubing, with copper fins.

To minimize the amount of refrigerant in the coils, each coil is divided into six parallel passes, with a thermostatic expansion valve on each pass. This permits the coils to operate practically dry, he says, and makes it possible to adjust any one of them to a low temperature for dehumidification. All told, 18 of Detroit Lubricator's valves are used.

Normal gas temperature to be maintained in the cooling coils is 40° F., Mr. Higham states. Suction lines leading back to the compressors are of 1 1/2-in. steel pipe.

The refrigerating machines are equipped with 10-hp. Westinghouse motors, Cutler-Hammer starters, Penn Switch water controls, and Penn Switch's new 1/2-in. XLI water valves.

Waste Water Cools Roof

Cooling water from the condenser is piped to the top of the theater and sprayed over the roof, Mr. Higham points out. This lowers the surface temperature of the roof's surface, and reduces inward heat leakage from solar radiation.

The installation has been approved by the Department of Public Safety of the City of Detroit.

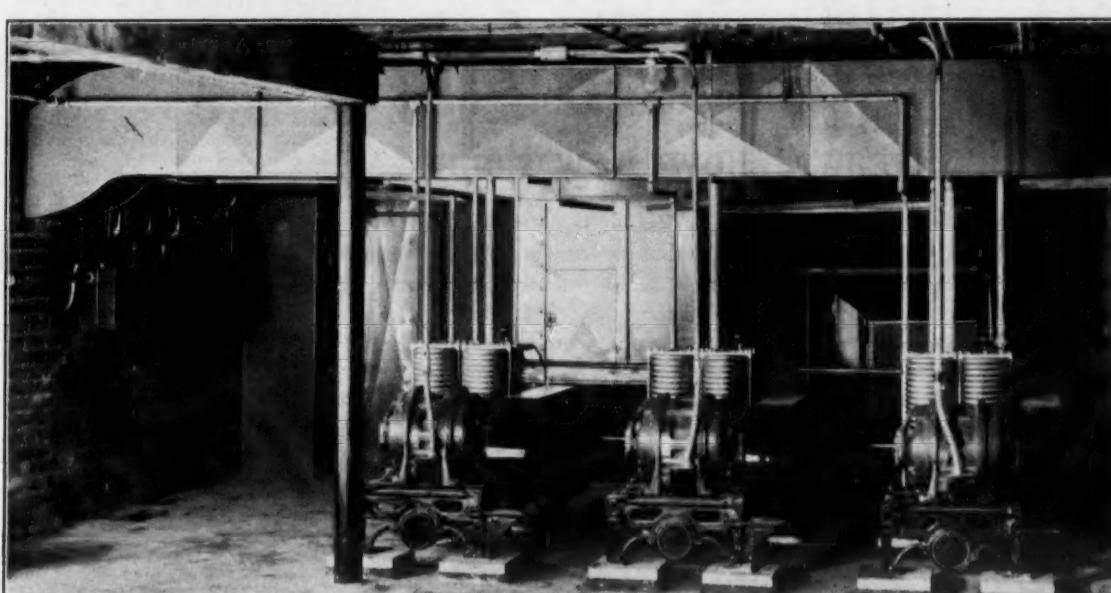
The air-distributing system is designed to recirculate two-thirds of the air treated by the system, one-third being fresh air. Fresh air is admitted to the theater through a large intake duct leading down from the roof of the building. It is led into a sheet metal cabinet containing an American Air Filter Co.'s spun glass filter and the Trane coils. Next it is drawn into a Sturtevant blower, driven by a 7 1/2-hp. motor, which circulates 11,000 cu. ft. of air per minute.

The air then passes up into a main distribution channel which extends lengthwise down the center of the auditorium's ceiling, and is hidden from view by a decorative panel suspended from the ceiling, Mr. Tolton points out.

Extending from this main duct are 14 T-shaped duct arms—seven on either side—through which the cold air passes before being discharged through the 3-in. lips of the 6-ft. crosspieces at the ends of the arms.

The air impinges against the side

30 Tons of Universal Cooler Air Conditioning



Basement view of Detroit's new Trans-Lux theater, cooled by a central system using Universal machines.

walls of the theater's auditorium, where it is broken up and distributed over the entire room. The main distribution duct is graduated in size, its width becoming smaller after each pair of sub-ducts, to maintain the proper amount of air friction and pressure for passage of the air through

other ducts further down the length of the main channel.

Air is drawn out of the room through four grilles, one at each corner, and through 40 mushroom outlets located on the floor near the perimeter of the auditorium. From these, two-thirds of the air is returned to the

cooling system for recirculation, and one-third is exhausted through goose-necks on the roof.

Steam coils are to be installed alongside the cooling coils in the air-conditioning system, and will be used for indirect heating of the theater during the winter, Mr. Tolton says.

KEROTEST FORGED BRASS COMBINATION GAUGE TESTING OUTFIT



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Australia	George Brown & Co., Ltd., 267 Clarence St., Sydney, N.S.W.
Europe	Malcolm Armstrong, Davies Co., Inc., 116 Broad St., New York, N.Y.
Hawaiian Islands	Theo. H. Davies & Co., Ltd., Honolulu, I. H.
Puerto Rico	Refrigeration Supply Co., P.O. Box 328, Puerto de Tierra, San Juan

- 1—Purging air or gas from high side
- 2—Charging oil in low side
- 3—Charging liquid refrigerant in high side
- 4—Charging gaseous refrigerant into low side
- 5—Transferring refrigerant from high to low side to check for leaks in system
- 6—Setting low side controls
- 7—Setting expansion valves
- 8—No disagreeable gas odors escape into the room. When test work is finished all gas is pumped from the gauge line into the suction side of the compressor

A hookup diagram showing a few of the many uses of this device is available on request.

KEROTEST MFG. CO.
PITTSBURGH

PENNA.

AIR CONDITIONING

New Research Shows that Unit Coolers Dehumidify when Cooling Only Part Of Air Stream Below Dew Point

By G. R. MacPherson and B. M. Woods, University of California*

UNTIL recently, many air-conditioning enthusiasts have believed that to remove moisture from humid air it is necessary to lower the temperature of the whole body of air below the dew point. This is not true in the case of unit coolers. Here the tube and fin surfaces must have a temperature considerably below the dew point but the average temperature of the mixture of air and water vapor need not be lowered to the dew point while passing through the cooler in order to condense out a good portion of the water vapor.

Some six months ago the writer became fascinated with this apparent contradiction of the laws of physics as shown in unit coolers and other air-conditioning equipment. A review of the literature disclosed that little work had been done on the partial removal of condensable vapors from a non-condensable gas.

So far as the writer knows, no work has been done to correlate theory and experimental results on a unit cooler. Hence it is the purpose of this research to study the heat transfer factors in a unit cooler, and to correlate them with the theories of forced convection and gas transfer by diffusion, eventually leading to the correlation of design and operating conditions.

Before taking up the underlying theory, let us consider the construction of a unit cooler and survey the laboratory set-up now being built in the Mechanical Engineering Laboratories of the University of California.

Essentially a unit cooler is a box containing a cooling radiator, through

*Presented before Western Conference on Air Conditioning, San Francisco, Section American Society of Mechanical Engineers, Feb. 9, 1933, at the University of California, Berkeley, Calif.

which air is forced by an electric fan. Air is withdrawn from the room through the bottom or back of the cabinet, forced by the fan over the cold, finned tubes, and discharged from the top or front of the cabinet into the room again. The temperature of the air may be lowered 10, 15, or 20° F.

To make the picture clearer, let us liken the unit cooler to an automobile fan and radiator. In the automobile we have heat generated by the engine being carried into the radiator by the circulating water. Air passing through the radiator absorbs this heat and thus the radiator is cooled.

In the unit cooler, heat flows in the opposite direction. Here warm air passes across the finned tubes gives up heat, and the cold water (or other refrigerant) absorbs the heat thus transferred. Hence, reduced to the simplest terms, a unit cooler is nothing more than a fan and cold radiator enclosed in a cabinet.

In the laboratory the cooler is slightly modified. Since the equipment available for refrigerating effect is a ½-hp. Frigidaire compressor unit, only miniature unit coolers will be tested for the present. A larger compressor-condenser unit is now being installed but will not be ready for use for several months.

The apparatus, as set up, consists

of a centrifugal fan connected to a humidifying and heating compartment. This in turn is connected to a 6-in. square wind tunnel, the flow through which is measured by a square orifice. The cooling element is placed at the wind tunnel exit.

Cooling Element

The first cooling element being built consists of 30 copper tubes, ¼ in. outside diameter and 6 in. long arranged in three vertical banks of 10 each. They may be staggered or in line as may be desired. Brine will be the refrigerant used for the present, for it is believed that its temperature may be held relatively constant.

Theory Involved

Before discussing quantities which must be measured let us consider the underlying theory. From this reasons for various measurements will be self evident. For simplicity, consider the tube walls as one vertical plane and the moisture collecting on the walls to be of uniform thickness.

Assume that for forced convection in a non-condensable gas, the heat transfer would be by conduction across a so-called viscous gas film on a dry surface. Assume also that we can still distinguish this conductance

mass movement of vapor molecules toward the liquid surface. The resulting vapor pressure should be very much like that shown in the chart.

The pressure due to dry air is not to the same scale as the vapor pressure, for the latter is rarely if ever more than 5 per cent of the total atmospheric pressure. It is generally believed that the total pressure is more or less uniform in the viscous film at all times. This we shall assume for the present time.

The temperature is uniform in the main stream or nearly so, for there is a continuous process of mixing going on due to turbulence. For the present consider that the temperature gradient is uniform across the viscous film, having the liquid surface and main stream temperatures as end points.

With the above picture in mind, let us now build up a heat balance. First, we have the heat being transferred across the so-called viscous film by pure conduction. Second, we have water vapor diffusing across this film and condensing on the liquid surface or in transit.

Every pound of water vapor that condenses liberates approximately 1,100 B.t.u. This heat load may be twice as large as the load due to conduction or so-called forced convection with dry gases.

Besides these two means of heat transfer, radiant energy is being absorbed by the cold tubes. In addition, the headers are transmitting heat conduction from points of support in the cabinet. Adding these up we have the heat absorbed by the refrigerant:

$$Q = hA(T_a - T_w) + LW + \text{Radiation and end-of-tube Conduction.} \quad (1)$$

Here, h is not the usual "transfer factor," but is the film conductance for dry air in B.t.u. per hour per degree F. difference in temperature per square foot surface area. A is the area of the liquid surface, T_a is the liquid surface temperature, T_w is the temperature in degrees F., L is the latent heat of evaporation, and W is the weight of moisture condensed per hour.

Now W is a rate of moisture transfer and is due to the diffusion of the water vapor molecules across the viscous film, whose effective thickness is d : $W = DA/d \times (P_a - P_w)$ (2) where D is the diffusion factor which may be in pounds of vapor per hour per square foot per unit difference in vapor pressure in pounds per square foot for one foot of film thickness. P_a is the vapor pressure of the moisture in the humid air stream and P_w is the vapor pressure of the liquid surface in pounds per square foot.

I might say that the reason for these absurd units is that they are dimensionally homogeneous; that is, each dimension has but one unit. Hence feet is used rather than both feet and inches as the unit of length.

The diffusion equation: $W = DA/d \times (P_a - P_w)$ is based on the law of supply and demand. There is a supply of moisture in the air stream and there is a demand for more molecules of moisture near the cooling surface.

As fast as these molecules arrive at the cooling surface, they become a liquid sheet on the cold tube and flow down it. Hence we have a continuous demand and a uniform rate of diffusion should result.

To sum up the theory, there are two phenomena which are chiefly responsible for the heat transfer in unit coolers. They are dry-gas forced convection, and moisture diffusion with subsequent condensation on the liquid surface.

Quantities to be Measured

From the foregoing theory we will now determine the quantities to be measured. As the energy that is trans-

ferred is mostly in the form of heat, it appears that a heat balance will be necessary. From this point of view the following quantities must either be measured or calculated.

1. The heat absorbed by the refrigerant.

2. The sensible heat given up by the air stream.

3. The amount of moisture condensed; that is, change in absolute humidity must be balanced against the condensate collected.

4. The radiation and tube-end corrections.

The first is accomplished if we measure the specific heat of the brine refrigerant, the flow by means of a VDI orifice, and the rise in temperature by two specially constructed copper constantan thermocouples whose e.m.f. will read to 0.001 millivolt. All thermocouples are to be calibrated for at least two points.

The sensible heat removed from the mixture of air and water vapor will be on a basis of the specific heat of air and water vapor combined in their respective proportions and multiplied by the change in dry bulb temperature on passing through the cooling tubes.

This latter will be measured by a thermal traverso with a shielded thermocouple. This thermocouple is placed inside a ½-in. copper tube near one end, and a vacuum pump keeps a sample passing through the tube while the traverso is being made.

The moisture removed will be determined by measuring the absolute humidity of the air stream on both sides of the cooler by passing an average sample of the air through concentrated sulphuric acid. A traverse will be made of the stream in order to obtain an average sample.

To date no thought has been given to the radiation and other heat leaks. This will be treated when the equipment is completed.

No conclusions can be drawn at the present time but it is known that the total load for a given unit will, with high humidity, be triple the load for low humidity air provided the back pressure on the refrigerant is the same in both cases. It is hoped that some correlation may be made between design features and operating conditions as a result of this research.

4-Ton Westinghouse System Installed

DETROIT—H. Kelly & Co., heating and ventilating engineers here, have just installed a 4-ton Westinghouse air-conditioning system in the Golden Pheasant restaurant at Second and Pallister Aves. in Detroit, according to Charles E. Tolton, construction engineer for the company.

The system is powered by a 5-hp. motor, and uses F-12 as the refrigerant. A fan driven by a ½-hp. motor forces 1,200 cu. ft. of air per minute into the room. The air distribution system used in this installation is similar to that used in Detroit's new Trans-Lux theater.

SEVEN DEALERS APPOINTED BY GENERAL ELECTRIC

NEW YORK CITY—Complete General Electric air-conditioning equipment will be retailed by seven more dealers.

The new dealers are W. D. Alexander Co., Atlanta, Ga.; Bard & Barger, Inc., Columbus, Ohio; Bard & Barger, Cincinnati; Ernest S. Brooks, Concord, N. H.; Hoosier Electric Refrigerator Co., Indianapolis; Ochiltree Electric Co., Pittsburgh; and Patterson & Stribling Co., Erie, Pa.



NEWS!

REFRIGERATION TUBES

in lengths up to 200 ft.

For the first time in the industry's history, Seamless Copper Refrigeration Tubes as large as one-half inch in diameter are available in lengths up to two hundred feet. Smaller tubes can be had in even longer lengths. For instance, the one-quarter inch tube illustrated is 425' long.

A newly developed process has made possible these long lengths, which materially reduce the risk of failure by minimizing splices. The longer lengths also reduce scrap losses, as the exact amount required can be cut without waste at the ends.

French De Luxe Copper Refrigeration Tubes are free from oxide and foreign matter. Each coil is completely dehydrated, sealed, rigidly tested and reaches you ready for use. For manufacturers who prefer to do their own dehydrating, the French Manufacturing Company produces copper tubes dried (commercially dehydrated), with either open or closed ends.

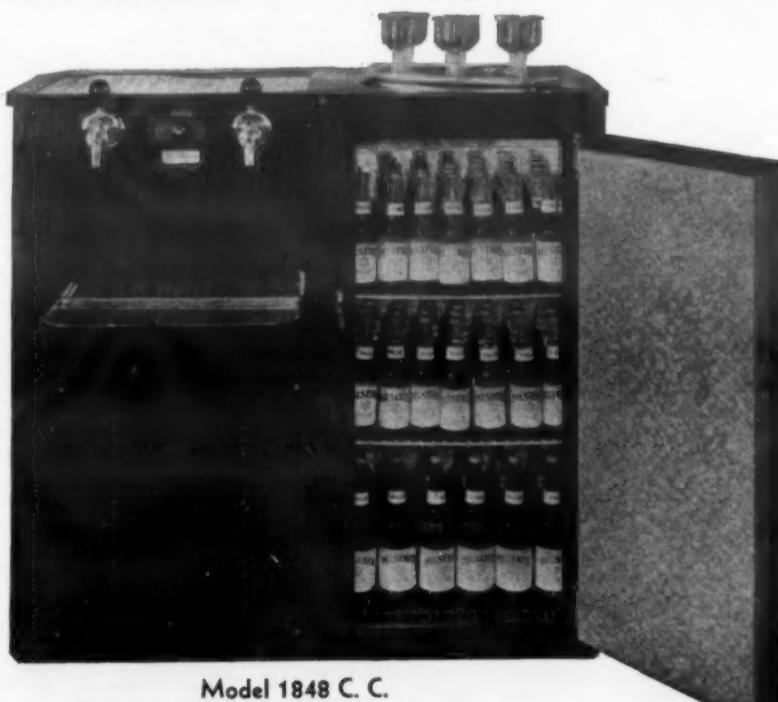
All French Copper Refrigeration Tubes possess the requisite properties for lasting, dependable service. Their grain structure is uniform. This important quality is in every coil because highest metallurgical skill, long manufacturing experience and only the best of raw material go into their production. Additional information will be furnished upon request.

THE FRENCH MANUFACTURING CO.
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Model 1848 C.C.

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BEER COOLING

SWEET WATER USED BY BISHOP & BABCOCK IN ITS BEER COOLERS

CLEVELAND—To help its sales outlets in the selection of electric refrigeration equipment for use with the beer coolers which it manufactures, Bishop & Babcock Sales Co. of this city has issued complete specifications and instructions on novelty boxes and coil boxes for mechanical refrigeration.

All Bishop & Babcock's novelty and coil boxes equipped for mechanical refrigeration employ the water bath system of cooling the beer and water, engineers of the company state. An oval box-type direct-expansion refrigerating coil consisting of continuous length of $\frac{1}{2}$ -in. tinned copper tubing is immersed and cools the water bath, which in turn absorbs the heat from the beer and water drawn through the immersed beer and water cooling coils.

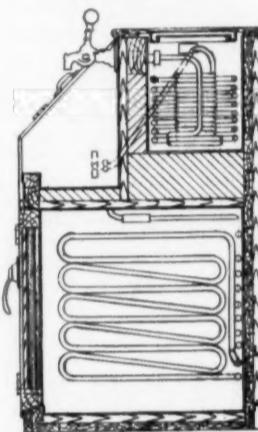
Coil Ends Accessible

Ends of the refrigerating coil are placed in an accessible position for the installation and service of control valves, and for the connection to the compressor. No control valves, switches, or compressors are sold or serviced by this company for use with coil boxes or novelty boxes.

With the type of cooling system that is provided, there are several widely used methods of temperature control in the water bath and in the method of connecting the refrigerating coils of the boxes to the compressor.

With each box sold for mechanical refrigeration, an instruction sheet suggesting the recommended tempera-

Novelty Box



Bishop & Babcock construction for electric refrigeration.

tures for the water bath is provided, together with a brief outline of the ordinary practice employed by refrigeration companies in making connections to water bath cooling systems of this type.

Of the usual methods practiced for control and connection to a system of this character, the following are the most widely used.

Direct connection of the refrigeration coil to the high side of the compressor, with an automatic expansion valve placed at the inlet connection to the refrigerating coil and with a back pressure valve at the outlet from the refrigeration coil, from which point a connection is made to the suction side of the compressor.

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REFRIGERATOR

FEDERAL REFRIGERATOR FURNISHINGS

The only complete line—saves space—saves food—saves money

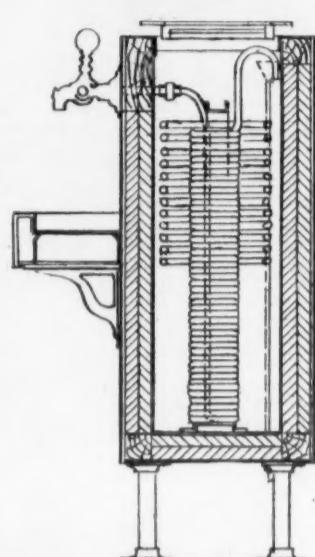
They increase the capacity and efficiency of every refrigerator

FEDERAL ENAMELING
& STAMPING CO.

World's Largest Manufacturer
of Enamelled Kitchenware

PITTSBURGH • PENNSYLVANIA

Coil Box



Cross-section of a Bishop & Babcock coil box for cooling beer with electric refrigeration.

It is customary in this type of system to provide, for safety purposes, a temperature operated electrical switch, operated from the temperature of the water bath and set to cut out the compressor at a temperature that will prevent freezing of the beer or water coils in the water bath.

This type of safety switch, used as an electrical cut-out, is usually connected in series with the main switch controlling the compressor for intermittent operation. The main switch is usually a standard part of the compressor, and is furnished with a high pressure cut-out where a water-cooled compressor or air-cooled compressor of commercial capacity is employed.

Direct Connection to Compressor

Another general type of hookup frequently installed has an automatic expansion valve connected at the inlet to the refrigerating coil. The liquid line (high-side connection) from the compressor is brought to this point, and the suction end of the refrigerating coil is connected directly to the suction line of the compressor.

In this type of hookup the compressor control would normally be through a thermostatically operated electrical switch with its bulb inserted in the water bath as the source of control for the starting and stopping of the compressor.

There is some considerable difference of opinion as to the merits of the two general methods of control mentioned herein, principally on the questions of which method holds the water bath temperature more closely to a uniform point, and secondly, on the merits of simplicity of control.

Regardless of the method employed, it is customary practice to expand the refrigerant into the bottom of the coil for the purpose of preventing frosting back into the suction line of the compressor. The method of control employed is entirely within the discretion of the manufacturer or dealer who supplies the refrigerating apparatus.

Novelty Box Storage

In Bishop & Babcock No. 224 line of novelty boxes, a cooling coil is provided for the storage space in the bottle compartment, or dry-storage compartment. Where these novelty boxes are supplied for refrigeration, the refrigeration coil of the dry-storage compartment is made a separate coil from the oval type coil supplied for the water bath compartment.

These coils may be connected in series, using a single set of controls, or in parallel, using a duplicate set of controls, in accordance with the ideas of the supplier of the refrigeration apparatus as to what constitutes the best practice for the requirements of his machine capacity and the load requirements of the customer for cooling purposes.

All coils furnished by Bishop & Babcock are arranged so that their terminals can be brought above the water line in accordance with what we consider good practice, to avoid connections under a water line.

The schedule showing the amount of $\frac{1}{2}$ -in. tinned copper coil tubing used in the various models of deep coil boxes is as follows:

Length	Ft. of $\frac{1}{2}$ -in. tubing	Approximate Maximum load*
2 ft.	60	4,000
2½ ft.	75	4,800
3 ft.	75	4,800
3½ ft.	75	4,800
4 ft.	90	5,600

Refrigerant tubing in novelty boxes:

Box Number	Ft. of $\frac{1}{2}$ -in. tubing	Approximate Maximum load*
34	75	4,000
274	75	4,800
224	75	4,800

*In B.t.u. per hour 70° entering and 40° F. exit temperatures.

INDIANAPOLIS FIRM WILL MANUFACTURE BOTTLE BEER UNITS

INDIANAPOLIS—Formation of the Electric Beverage Cooler Co., Inc., which will manufacture and sell a complete line of electrically refrigerated beverage coolers to be known as the "Super-Fast" line, has been announced by a group of Indianapolis business men.

Production of the line of coolers has already been started in the factory here, and the sales organization is engaged in a campaign to get national distribution for its product.

Officers of the company are L. L. Banford, president; A. P. Klee, vice president; G. H. Mack, treasurer; and Frank O. Harris, secretary and sales manager. Mr. Banford has been connected with the Stewart-Warner Speedometer Corp. for the past 23 years as factory representative and Indianapolis agent. Mr. Klee and Mr. Mack are executives in the firm of Klee and Coleman, a beverage bottling and distributing firm. Mr. Harris was formerly manager of the refrigerator department of the Gibson Co. here, and buyer and manager of the radio and refrigerator department of the William H. Block Co., Indianapolis department store.

There will be six models designed for electric refrigeration in the "Super-Fast" line. All the models will be self-contained, with the compressor housed in the bottom of the frame.

The three standard models will have capacities of 60, 120 and 192 12-oz. bottles, respectively. The three deluxe models come in the same capacities, but in addition, will be equipped with water cooler drinking fountain combinations.

Refrigeration Applied In Cocoa Production

CLEVELAND—Electric refrigeration has been adopted by the Forbes Chocolate & Cocoa Co. here to solve a problem in the manufacture of chocolate products.

Before installation of refrigeration equipment, considerable difficulty was experienced with a screening operation in which cocoa powder was passed through a large screening compartment containing silk with 10,000 holes per sq. in., because the preceding grinding process heated the cocoa enough to make it gummy.

Since installation of refrigeration equipment to cool the screening compartment to a constant 50° F., all the powder passes through properly.

PENDER USES KELVINATOR IN BEER COOLERS

LYNN, Mass.—R. T. Pender, Inc., of this city has built and installed a number of Kelvinator-equipped draft beer dispensing cabinets in this area.

The Pender dispenser is a two-tap model employing a sweet water bath cooled by 50 ft. of refrigeration coil. It is finished in stainless steel and insulated with 2-in. Armstrong cork board. It is fitted with two 50-ft. block tin beer coils.

ABEL HANDLES PARTS FOR WHITEHEAD MACHINES

DETROIT—Charles S. Abel service company, which last year purchased from Whitehead and Kales Co. all parts and surplus materials used in production of the latter's refrigeration equipment, is now serving as official local and national service organization for Whitehead machines, and has headquarters at 14901 Mendota Ave., Detroit.

UNIVERSAL USED FOR REFRIGERATED TRUCK

MINNEAPOLIS—To preserve ice cream in transit, a new refrigerated truck using Universal Cooler refrigeration equipment has just been placed in service by the Ives Ice Cream Co. here. Installation of the refrigerating system was made by the Harold L. Schaefer Co., Universal distributor.

The truck employs a $\frac{1}{4}$ -hp. air-cooled compressor, driven by an electric motor, to cool the ice cream compartment with an evaporator designed by the Ives Ice Cream Co. engineers. The evaporator consists of a direct-expansion coil of $\frac{1}{4}$ -in. copper tubing distributed overhead, and in series with another coil in a brine tank in the center of the compartment. The system uses a thermostatic expansion valve.

The system runs only at night, storing up refrigeration in the calcium chloride brine tank so that no operation is necessary during the day.

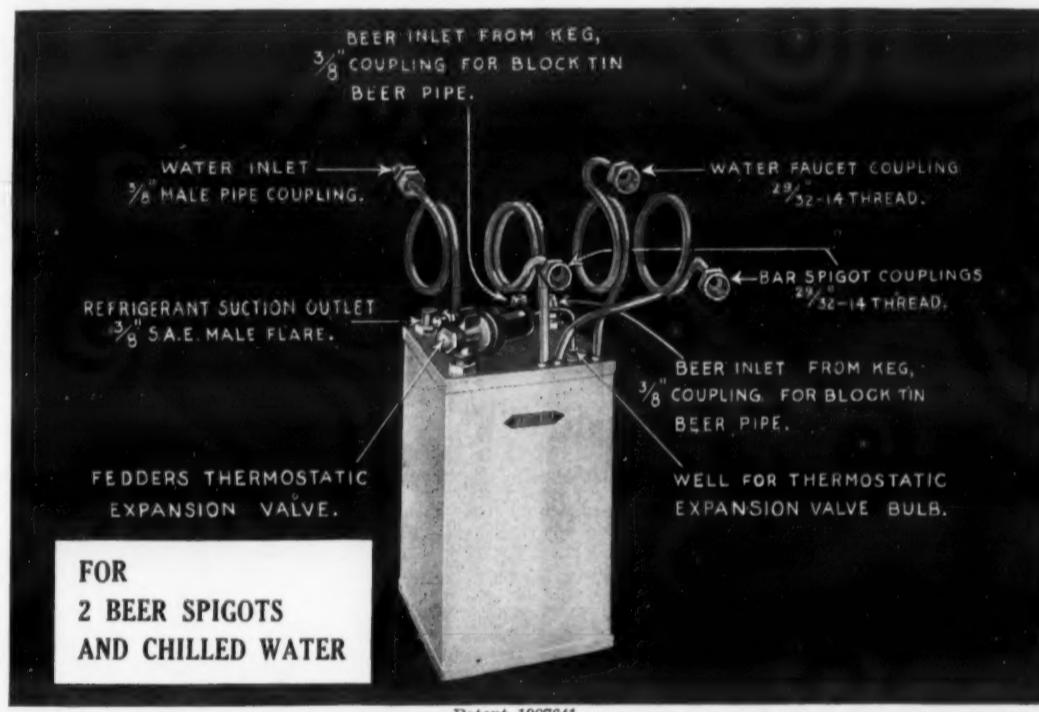
Fast pull-down of temperatures is accomplished by means of the overhead coil which is cooled by the refrigerant before the brine tank cooling unit.

The truck is insulated with 4 in. of cork in the sides and top, with 6 in. in the bottom. A 4-in. dead air space has been provided in the top of the truck, above the cork, to insulate the body from radiant heat of the sun.

REFRIGERATION PRODUCTION DOUBLED BY SPARTON

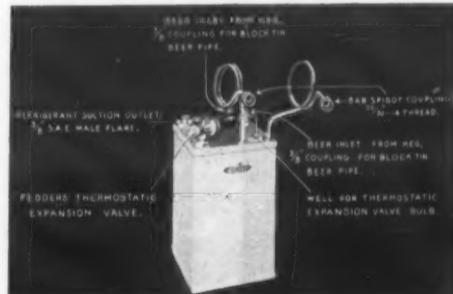
JACKSON, Mich.—Refrigerator production of Sparks-Witthington Co. here is running double that of a year ago with a six-day per week schedule and some departments working overtime. The accessory plant of the company is turning out 5,000 auto horns daily.

FEDDERS BEER COOLERS HAVE MET EVERY TEST OF TIME AND ACTUAL USE

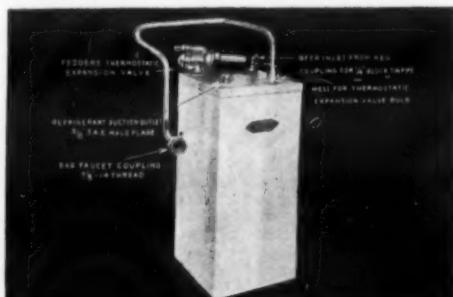


Patent 1907641

Here is the INSIDE STORY of HOW FEDDERS patented BEER COOLING COILS Set a New Standard of Dependability and Service Economy



FOR TWO BEER SPIGOTS
FOR 2 Kegs or Light and Dark Beer



FOR ONE BEER SPIGOT

1. **PURE BLOCK TIN BEER COILS**
Pure Block Tin Pipe is recognized and recommended by brewers as the finest material for use with beer as it eliminates all possibility of chemical action which would contaminate the beer and spoil its true flavor. The use of Pure Block Tin Pipe with heavy wall instead of tin-lined copper tubing makes it impossible for the beer to come in contact with copper throughout the long life of the coil.

2. **NO SWEET WATER BATH**
Fedders exclusive and patented construction with beer coils in direct metal-to-metal contact with refrigerant coil eliminates necessity for unsanitary sweet water bath.

3. **BEER COILS NOT IMMERSED IN REFRIGERANT**
Fedders construction makes possible the use of Pure Block Tin Beer Pipe instead of tin-lined copper tubing by eliminating the necessity for immersing the beer coils in primary or secondary refrigerant.

4. **BEER COOLING CAPACITY**
Fedders patented design gives instantaneous cooling with capacities from 8 to 32 gallons per hour.

5. **THERMOSTATIC EXPANSION VALVE**
A Fedders Thermostatic Expansion Valve is used to regulate the flow of refrigerant into the evaporator coil.

IMMEDIATE DELIVERY

Write for catalog of Fedders Complete Line of Time Tested Beer Coolers

FEDDERS MANUFACTURING CO.
57 Tonawanda Street

Buffalo, N. Y.

PATENTS

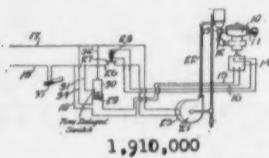
ISSUED MAY 23, 1933

1,909,992. METHOD OF DETECTING LEAKS IN REFRIGERATING SYSTEMS. Harry M. Williams, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Original application filed June 30, 1927, Serial No. 202,768. Divided and this application filed Jan. 31, 1930. Serial No. 425,076. 5 Claims. (Cl. 23-230.)

4. The method of detecting leaks in a closed system containing an ordinarily non-detectable refrigerant which consists in introducing into the system a detectable refrigerant in a quantity sufficient for detecting purposes but insufficient to substantially vary the vapor pressure characteristics of the non-detectable refrigerant, and testing suspected leaks for the presence of the detectable refrigerant.

1,910,000. UNLOADER FOR COMPRESSORS. Leon Buehler, Jr., Waynesboro, Pa., assignor to Frick Co., Waynesboro, Pa., a Corporation of Pennsylvania. Filed Feb. 29, 1932. Serial No. 595,937. 7 Claims. (Cl. 230-22.)

1. An unloader for compressors comprising a fluid operated by-pass valve positioned in a passage connecting the dis-



1,910,000

charge with the intake of the compressor, fluid pressure means for holding said valve open during the starting of the compressor, means for generating said fluid pressure, and a switch in control of circuits to a motor for driving said compressor, and means for delaying operation of said motor until the pressure generating means has caused said by-pass valve to be opened, substantially as set forth.

1,910,009. APPARATUS FOR FREEZING LIQUIDS IN VACUO. Ralph V. Grayson, Atlanta, Ga. Filed Dec. 20, 1930. Serial No. 503,829. 10 Claims. (Cl. 62-114.)

1. Apparatus for freezing liquids in vacuo comprising a charging reservoir, a freezer, means for maintaining vacuum in said reservoir and freezer, and means for positively charging the contents of said reservoir into said freezer.

1,910,024. HEAT INSULATION FOR APPARATUS WORKING AT VERY LOW TEMPERATURES. Jean Le Rouge, Boulogne-sur-Seine, France, assignor to l'Air Liquide Societe Anonyme pour l'Etude & l'Exploitation des Procedes Georges Claude, Paris, France. Filed June 30, 1931. Serial No. 548,056, and in Germany July 3, 1930. 4 Claims. (Cl. 62-122.)

1. A heat insulation covering for apparatus operated at low temperatures which consists of an inner layer of porous material surrounding said apparatus and impregnated with a gas which is not liquefiable at the temperature at which said apparatus is operated, an inner gas tight covering enclosing said inner layer of porous material surrounding said inner covering in direct contact with it and impregnated with a gaseous medium which is liquefiable at the temperature at which said apparatus is operated and an outer gas tight covering enclosing said second layer of porous material.

1,910,025. ATOMIZER WITH CLEANING AND FLUSHING ATTACHMENT. Carroll E. Lewis, Minneapolis, Minn., assignor, by mesne assignments, to Lewis Air Conditioners, Inc., Minneapolis, Minn., a Corporation of Delaware. Filed June 13, 1930. Serial No. 460,876. 2 Claims. (Cl. 299-59.)

1. In an atomizer, a body having an axial fluid passage, said passage having a diminished cylindrical outer portion terminating in a relatively small axial discharge port, a cylindrical nozzle head nor-

mally seated in the cylindrical portion of said passage and of substantially similar diameter thereto, a rod extending through said body axially of said passage and having at its outer end a slideable connection with said nozzle head, said nozzle head



1,910,025

having a substantially helical peripheral groove extending from the inner to the outer end thereof, said body terminating in a discharge port axially aligned with the outer end of said rod and of substantially equal diameter therewith, said rod being slideable in said body for cleaning said port and connected with said nozzle head to retract the same into the enlarged portion of said passage.

1,910,029. REFRIGERATOR DOOR-LATCH. John F. Millar and Anton N. Hornung, Los Angeles, Calif., assignors to City Refrigerator Co., Los Angeles, Calif., a Corporation of California. Filed May 16, 1932. Serial No. 611,506. 6 Claims. (Cl. 292-340.)

1. A latch device of the character described, including: a catch member; a bolt member adapted to move along a line of movement into engagement with said catch member; means for supporting said bolt member, and moving the same through said line of movement, said bolt member being mounted on said supporting means so as to recede from said catch member in a direction normal to said line of movement; means yieldably forcing said bolt member toward said line of movement; a bracket for supporting said catch member, said catch member being of hook form and having its inner end pivotally secured to said bracket at a point proximate to said line of movement and having a shoulder near its outer end disposed to cross said line of movement and in a plane substantially perpendicular to said line of movement, said catch member being adapted to swing said shoulder away from said bolt member as said bolt member moves in engagement with said catch member in a direction normal to said line of movement; means yieldably forcing said catch member toward said bolt member, both of said members yielding as they move in engagement toward latched position; and means for separating said members so as to release the same.

1,910,077. REFRIGERATION. Harry M. Williams, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed June 30, 1927. Serial No. 202,768. 3 Claims. (Cl. 252-5.)

1. As a composition of matter, a refrigerant composed of a mixture of methyl chloride and sulfur dioxide, the quantity of sulfur dioxide present being sufficient for detecting purposes but insufficient to substantially vary the vapor-pressure characteristics of the methyl chloride.

1,910,110. AIR CONDITIONING APPARATUS. Albert H. Kundee, Dowagiac, Mich., assignor to Premier Warm Air Heater Co., Dowagiac, Mich., a Corporation of Michigan. Filed Dec. 7, 1931. Serial No. 579,555. 1 Claim. (Cl. 261-115.)

Air conditioning apparatus of the class described including a housing having adjacent chambers, a water pipe extending across one of said chambers, a water pipe extending lengthwise of the other chamber and connected to the first mentioned pipe so as to receive water therefrom, twin blowers within the first mentioned chamber having substantially aligned inlets and having substantially parallel outlets

1,910,498. MOTOR COMPRESSOR UNIT. Clyde Edward Ploeger, Alvin E. Burgess, and Walter A. Kuenzli, Evansville, Ind., assignors to Servel, Inc., New York, N. Y., a Corporation of Delaware. Filed Jan. 10, 1931. Serial No. 512,312. 12 Claims. (Cl. 230-58.)

1. A motor-compressor unit including a casing, a frame supported within said casing, a compressor mounted on said

frame and comprising a stationary piston and a reciprocable cylinder, a motor also mounted on said frame and having a hollow shaft with ducts leading from the interior of the shaft to the motor bearing surfaces, a yoke attached to the compressor cylinder, a cross-head reciprocable in said yoke and having a valve opening adapted to cooperate with the compressor intake port, a pump comprising a cylinder formed in the cross-head and a piston attached to the yoke, a crank on the motor shaft journaled in the cross-head and having intake and discharge valve openings for said pump, the discharge opening communicating with the interior of the motor shaft and the intake opening communicating with an intake pipe connected to the crank.

1,910,504. REFRIGERATOR CABINET. Folke Emil Sellman, White Plains, N. Y., assignor, by mesne assignments, to Electrolux Servel Corp., New York, N. Y., a Corporation of Delaware. Filed Oct. 8, 1929. Serial No. 398,147. 2 Claims. (Cl. 62-116.)

1. A refrigerator comprising an insulated cabinet for reception of food, an auxiliary cover having contact with the outer wall of the cabinet and forming a compartment having an open back, means forming a horizontal channel adjacent the cabinet and said cover having a down-turned edge fitting into the channel, the arrangement being such that the cover can be removed by simply pulling the same forward.

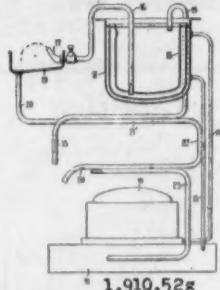
1,910,528. WATER COOLER. Alvis Yates Dowell, Hastings-upon-Hudson, N. Y., assignor to Servel, Inc., New York, N. Y., a Corporation of Delaware. Filed Dec. 5, 1931. Serial No. 579,169. 11 Claims. (Cl. 62-141.)

8. That improvement in the art of refrigeration which comprises transferring waste refrigerated fluid, heat from the fluid prior to its refrigeration, heat from refrigerant between its condensation and evaporation, and heat produced by the condensation of refrigerant.

1,910,538. ABSORPTION REFRIGERATING APPARATUS. William R. Hainsworth, Larchmont, and Eric H. Ryden, New York, N. Y., assignors to Electrolux Servel Corp., New York, N. Y., a Corporation of Delaware. Filed April 28, 1931. Serial No. 533,402. 14 Claims. (Cl. 62-5.)

1. Absorption refrigerating apparatus including a generator, an absorber located

above said generator, an intermediate vessel connected between said absorber and generator, a connection between the vapor space in said generator and said intermediate vessel, a connection between



1,910,528

the liquid space in said generator and the absorber, and means for opening and closing said connections responsive to the pressure in the absorber.

1,910,636. ICE MACHINE COMPRESSOR. George L. Pownall, Atlanta, Ga. Filed Nov. 19, 1929. Serial No. 408,866. 2 Claims. (Cl. 74-14.)

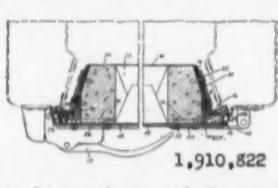
1. The combination with a pair of reciprocable members, of a straight driving shaft, a disc mounted concentrically of said shaft, said disc having a pair of eccentric extensions disposed one each on opposite sides of the disc, 180 degrees apart and having said shaft extending through them, a pair of cam plates rigidly mounted on the shaft and each having an interior annular flange concentric with one of said eccentric extensions on the disc, a roller member on the end of each of the said reciprocable members and engaging said eccentric members and annular flanges respectively at all times when the driving shaft is rotated thereby producing constant rectilinear movement of the reciprocable members.

1,910,703. THERMAL INSULATION. Joseph M. Le Grand, Chicago, Ill. Filed Aug. 17, 1932. Serial No. 629,089. 34 Claims. (Cl. 189-1.)

3. A heat insulating structure which comprises a space defined by spaced walls adapted to be exposed to relatively higher and lower temperatures, a single metallic sheet of sufficient thickness and stiffness to retain pre-formed shape mounted in said space, said sheet being performed to divide its surface into a plurality of angular and intersecting plane surfaces, and means for mounting said sheet in said space in spaced relation to said walls and closer to the higher temperature wall than to the lower temperature wall.

1,910,822. REFRIGERATOR DOOR. John P. Clarkson, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a Corporation of Pennsylvania. Filed Dec. 9, 1931. Serial No. 619,754. 16 Claims. (Cl. 20-35.)

1. A cabinet door comprising a sheet metal inner panel, sheet metal intermediate panel spaced therefrom, breaker strips con-



1,910,522

nected the panels around the periphery of the door, heat-insulating material within the space between said panels, and an outer facing panel of sheet material secured on the exterior side of the intermediate panel.

1,910,840. REFRIGERATING MACHINE. Emil Kagi, Winterthur, Switzerland, assignor to the Firm of Sulzer Freres Societe Anonyme, Winterthur, Switzerland. Filed March 8, 1932. Serial No. 597,456, and in Switzerland Aug. 17, 1931. 10 Claims. (Cl. 62-115.)

1. A refrigerating machine, comprising a main evaporator, a compressor, and a means between the evaporator and the compressor for returning the lubricant and the refrigerant from said evaporator directly to said compressor and including an injector having a pressure chamber and a suction chamber, a lubricant collector for collecting by gravity lubricant from the refrigerant, a discharge pipe connecting the said collector to the suction chamber of said injector, a pipe leading from the pressure chamber of said injector, directly to the compressor, the cross-sectional area of the admission

nozzle of the injector being adjustable for the purpose of controlling the suction in the oil discharge pipe in accordance with the working conditions in the machine.

1,910,853. ABSORPTION REFRIGERATING APPARATUS. Carl Georg Munters, Stockholm, Sweden, assignor to Electrolux Servel Corp., New York, N. Y., a Corporation of Delaware. Filed Feb. 27, 1929. Serial No. 343,017, and in Sweden April 4, 1928. 15 Claims. (Cl. 62-116.)

1. A refrigerator comprising, in combination, a cabinet having a food storage compartment, an absorption refrigerating



1,910,853

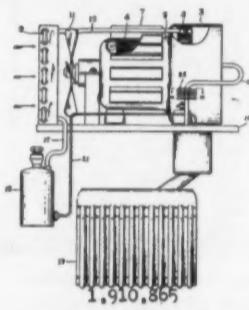
apparatus mounted in said cabinet, said apparatus comprising a first evaporator in said food storage compartment, said first evaporator comprising an extended conduit placed in a substantially horizontal position, a housing around said conduit adapted to receive an ice tray, an insulating jacket around said housing, a second evaporator in said food storage compartment below and in communication with said first evaporator comprising a cylindrical shell and substantially horizontally disposed trays in said shell, heat transfer fins on said second evaporator extending laterally beyond said first evaporator, and means to withdraw gas from said second evaporator.

1,910,854. REFRIGERATOR. Carl Georg Munters, Stockholm, Sweden, assignor to Electrolux Servel Corp., New York, N. Y., a Corporation of Delaware. Filed July 19, 1929. Serial No. 379,351, and in Sweden July 21, 1928. 6 Claims. (Cl. 62-1.)

2. In combination, a refrigerator cabinet having a compartment to be cooled, an absorption refrigerating apparatus comprising a generator and an evaporator, said evaporator being located in said compartment, walls forming an insulated compartment to be heated, means for continuously heating said generator by combustion and means for indirectly heating said last mentioned compartment with waste heat from said generator.

1,910,865. REFRIGERATING APPARATUS. Frederic L. Tarleton, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., a Corporation of Pennsylvania. Filed Dec. 9, 1931. Serial No. 579,939. 10 Claims. (Cl. 62-115.)

1. Refrigeration apparatus including a condenser, a compressor and an evaporator, conduit means for returning low tem-



1,910,865

perature refrigerant from said evaporator to said compressor, and means associated with said conduit means and utilizing air heated due to operation of the apparatus for preventing dripping of moisture from the conduit means.

1,910,996. REFRIGERATING APPARATUS. Alex A. McCormack, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Sept. 30, 1930. Serial No. 485,832. 3 Claims. (Cl. 62-115.)

1. Refrigerating apparatus comprising in combination, a cooling unit, means for circulating a refrigerant through the cooling unit, means responsive to the temperature of said cooling unit for intermittently operating said cooling unit for normally maintaining the cooling unit at a substantially constant predetermined low

(Continued on Page 19, Column 4)

JUST GOOD BUSINESS
TO SPECIFY
ANSUL SULPHUR DIOXIDE—THE DEPENDABLE REFRIGERANT



Ansul Sulphur Dioxide is available in nine sizes of cylinders ranging in capacity from 2 to 150 pounds and in ton drums and tank cars. Warehouse stocks are maintained in 40 conveniently located cities. Write for warehouse locations and complete price list.

WHAT we say about Ansul Sulphur Dioxide
Dioxide may cause you to place an order, but your future use of the product will depend upon the results you obtain.

That is why we say it is "Just good business to specify Ansul Sulphur Dioxide." We believe we have the best sulphur dioxide obtainable. You'll discover it only by trying it out. Let your next order be Ansul. Let it prove our claims.

ANSUL CHEMICAL CO. MARINETTE WISCONSIN

Three major claims for the Leland brush-lifting, cradle-mounted motor prescribed for use on refrigerator compressors are discussed in a special bulletin.

—which claims are justified by the performance record achieved on tens of thousands of refrigerators now in service. Designers and builders of such equipment are urged to get Bulletin No. 28.

The Leland Electric Co., Dayton, Ohio, U.S.A.
Cable Address
"Lelct"

Canadian Address
Toronto, Canada

Leland Motors



A NEW FIN COIL by PEERLESS

Wedge-locked and edge-locked aluminum fins on tinned copper tubing for methyl chloride, sulphur dioxide, F-12, etc.—aluminum tubing for ammonia. Absolute Metal to Metal Contact. A Superior Coil in which Soldered Return Bends have been eliminated. Priced to meet 1933 conditions. Write—Wire for Catalog.

PEERLESS ICE MACHINE CO., 515 W. 35th St., Chicago, Ill.

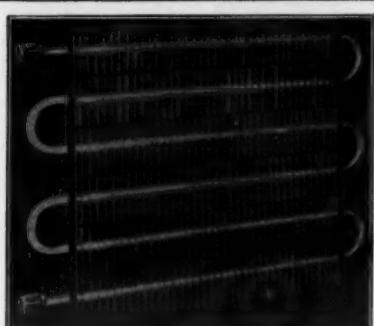
"REMPE" SUPER COLD FIN COILS

for

Methyl Chloride,
Ammonia, F-12 and
Sulphur Dioxide

Thermostatic Expansion Valves for
Methyl Chloride and Ammonia.

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Highest Efficiency
With Smallest Number
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Makers of Rome Condensers and
Helical Finned Tubing



Makes Boys' Play of a Man-sized Job

The Balance Truck handles refrigerators, heavy boxes, stoves, crates, etc. with no arm strain. Padded nose piece has instant, exact adjustment. Write today for details. Also manufacturing Heavy Duty Caster X-70 Refrigerator Trucks.

Self-Lifting Piano Truck
Co.
Findlay, Ohio

Manufacturers of Trucks since 1901



Dayton V-Belts

For all makes and types of refrigerators. There is a stock near you. Ask for price list and name of your nearest distributor.

THE DAYTON RUBBER MFG. CO.
Dayton, Ohio

The World's Largest Manufacturer of V-Belts



We carry a complete stock of

EVERYTHING IN REFRIGERATION

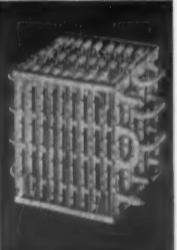
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FEDDERS COMMERCIAL COILS

Thermostatic Expansion Valves, Tubing, Manifolds, Fittings, Controls, etc.

Save money, time and work—Buy everything from one source

MELCHIOR, ARMSTRONG, DESSAU CO.
1135 CALLOWHILL ST. 116 BROAD ST. STATLER BLDG.
PHILADELPHIA NEW YORK BOSTON



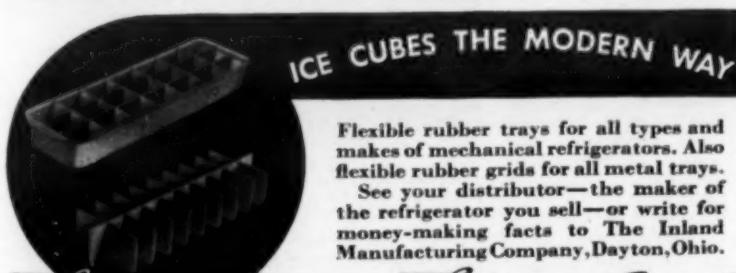
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OFF THE
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The NEW KRAMER REFRIGERATION CATALOG

A request will bring it to you.

Complete listing of COMMERCIAL EVAPORATORS for all refrigerants—Domestic Evaporators—Condensers—Unit Coolers—Fittings—Controls

TRENTON AUTO RADIATOR WORKS
New York, N.Y.
Main Office and Factory
TRENTON, NEW JERSEY
Pittsburgh, Pa.
5145 Liberty Ave.



Flexible rubber trays for all types and makes of mechanical refrigerators. Also flexible rubber grids for all metal trays.

See your distributor—the maker of the refrigerator you sell—or write for money-making facts to The Inland Manufacturing Company, Dayton, Ohio.

Flexo Trays • Flexo Grids

QUESTIONS

Soda Fountain Manufacturers
No. 1227 (Dealer, New Mexico)—"Kindly send us a list of soda fountain manufacturers, as we are planning to buy a new fountain."

Answer—See page 359 of the REFRIGERATION DIRECTORY and MARKET DATA BOOK.

Silica Gel

No. 1228 (Exporter, California)—"We are interested in learning what refrigerator manufacturers are using Silica Gel or other similar products in refrigeration work. Can you advise us, or refer us to any party which can furnish this information?"

Answer—Several years ago Copeland Products, Inc., Mt. Clemens, Mich., did considerable development work in the utilization of this material for household refrigeration, but subsequently dropped the development entirely. We know of no household refrigerator manufacturer now working with Silica Gel.

Two years ago the Safety Car Heating & Lighting Co. employed Silica Gel in a number of refrigerated freight cars and refrigerated motor trucks which it built, and the company has several patents on such applications.

For further information on the material and its use, get in touch with the Silica Gel Corp., 1800 Baltimore Trust building, Baltimore, Md.

Refrigerator Sales Since 1928

No. 1229 (Manufacturer, Ohio)—"We are making some analyses of motor sales for our own information, and would like to have the figures on total sales of electric refrigerators from 1928 to date."

Answer—All available statistics on refrigeration sales up to October, 1932, were published in the REFRIGERATION DIRECTORY and MARKET DATA BOOK. Sales figures released by the Refrigeration Division of the National Electrical Manufacturers Association since October have been reported in ELECTRIC REFRIGERATION NEWS.

Insulation

No. 1230 (Manufacturer, Sweden)—"We are informed that American refrigerator manufacturers have recently started using other insulation materials than cork, and we should appreciate any information you can furnish on the subject."

Answer—Yes, several insulation materials other than cork have been developed for use in household electric refrigerators. One of the most popular insulations is Dry-Zero, a vegetable fiber which is specially treated, grained, and packaged in slabs by Dry-Zero Corp., Merchandise Mart, Chicago, Ill.

Leading suppliers of fiber board insulation (with structural strength) are the Celotex Co., 919 N. Michigan Ave., Chicago, and the Insulite Co., Builders Exchange, Minneapolis, Minn. Another fiber insulation, used in bulk or formed slabs, is Balsam Wool, furnished by Wood Conversion Co., 360 N. Michigan Ave., Chicago, Ill.

Within the past year and a half two entirely new insulations have been adopted by household refrigerator manufacturers. These are aluminum foil and corrugated paper. Both have been described in past issues of ELECTRIC REFRIGERATION NEWS.

For a complete list of insulation manufacturers, see pages 198 and 200 of the REFRIGERATION DIRECTORY and MARKET DATA BOOK.

Service Companies

No. 1231 (Manufacturer, New York)—"Have you any information about service companies or service men in the vicinity of Grand Rapids, Mich.? It is necessary that we get in touch with somebody in this business immediately."

Answer—A directory of independent service companies in all sections of the country was published in the Jan. 25, 1933, issue of ELECTRIC REFRIGERATION NEWS.

Klemm Filter

No. 1232 (Exporter, New York)—"We have been asked for information concerning the 'Klemm Filter', and as we have been unable to obtain any information on its source of supply, we are wondering if you can help us out."

Electric Parts

No. 1233 (Dealer, Pennsylvania)—"We have a number of Electric machines which require replacement parts. Do you know of any concern which can supply parts for this refrigerator?"

Answer—Try Deissler Machine Co., 31 N. Mercer St., Greenville, Pa.

1933 Directory

No. 1234 (Manufacturer, Germany)—"We would appreciate information about the 1933 REFRIGERATION DIRECTORY. If it has been issued, please consider this an order for one copy. If the new issue has not yet been printed, would you send us 1932 export statistics as

reported by the Bureau of Foreign and Domestic Commerce."

Answer—The 1933 DIRECTORY has not yet been published, but will probably appear in September or October of this year. For export figures refer to ELECTRIC REFRIGERATION NEWS which reports monthly figures as released by the bureau.

Comparative Tests

No. 1235 (Trade association, New York)—"We are informed that not long ago you published a table showing the comparative standing of electric refrigerators, based on economy of operation and general satisfaction to the user. If our informant is correct, would it be possible for us to have a copy of that report for our files?"

"We are frequently asked by members of this organization for unbiased information on products of different manufacturers, and this morning received such an inquiry on electric refrigerators. You will understand that if we answer such inquiries at all, it can be done only on the basis of a correct technical report such as I imagine you would publish."

Answer—Perhaps you refer to the "Specifications Issue" of the News (March 22) in which detailed specifications of 273 models of household refrigerators were tabulated—products of 35 different manufacturers.

We have not, however, published comparative test data. This type of material is frequently requested, but there is no way that reliable information can be obtained readily.

Some comparative tests have been made by individual laboratories for their clients, but obviously the concern which pays for this service does so in order to obtain special information for its own purposes, and therefore would not be interested in incurring the troubles and possible law suits which would result from making the data public.

Kerosene-Burning Refrigerator
No. 1236 (Dealer, South Carolina)—"Please send us a list, with addresses, of manufacturers of kerosene-burning refrigerators, with the exception of Superfex. Also, will you please send another copy of the March 22 issue of the News containing specifications of 1933 household refrigerators. Our copy is about worn out."

Answer—There is only one company, other than the manufacturer of Superfex refrigerators, which manufactures kerosene-burning refrigerators; this is Gibson Electric Refrigerator Corp., Greenville, Mich.

Unfortunately, our stock of extra copies of the March 22 issue is now exhausted. However, we will probably prepare another "Specifications Issue" sometime soon.

Methyl Chloride

No. 1237 (Italy)—"Kindly advise us names and addresses of American suppliers of methyl chloride for refrigeration."

Answer—Matheson Co., East Rutherford, N. Y., and the R. & H. Chemical Department of E. I. du Pont de Nemours & Co., Wilmington, Del.

Sulphur Dioxide Compressors
No. 1238 (Jobber, Kentucky)—"We would appreciate your putting us in touch with a reputable manufacturer of sulphur dioxide compressors larger than $\frac{1}{2}$ hp., which is not represented in this district."

Answer—See advertisements in ELECTRIC REFRIGERATION NEWS.

PATENTS

(Continued from Page 18, Column 5)
temperature, manually actuated means for rendering said second named means ineffective and for causing said circulating means to operate continuously, irrespective of the temperature of the cooling unit, to produce a temperature in said cooling unit below said normal low temperature thereof, and means for automatically discontinuing the continuous operation of the circulating means, when said circulating means begins to withdraw liquid refrigerant from said cooling unit.

1,911,002. REFRIGERATING APPARATUS. Harry F. Smith, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Sept. 30, 1931. Serial No. 566,032. 11 Claims. (Cl. 62—4.)

1. Refrigerating apparatus comprising in combination, an insulated compartment to be cooled, an evaporator disposed in said

Commercial Evaporators

Domestic Evaporators

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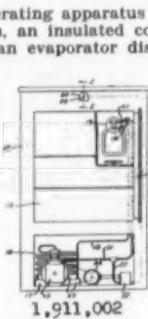
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compartment, means for circulating refrigerant medium through the evaporator, control means for automatically controlling the circulating means to maintain said evaporator at a normal predetermined mean temperature, and means for automatically modifying the operation of the control means in response to temperature outside said compartment.

(To be Continued in Next Issue)